

**THE
RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation
INCORPORATING

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GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list which will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

REDUCTION IN SIZE OF PAGE

To economise in paper our readers will observe a slight reduction in the size of THE RAILWAY GAZETTE in that the size of the page has been reduced from 9 in. x 12 in. to 8½ in. x 11½ in.* The type area of the page remains the same, namely, 7 in. x 10 in., but the surrounding margins have been reduced. This of course detracts from the appearance of the paper, but is one of the exigencies of the war

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:

Mondays to Fridays 9.30 a.m. till 5 p.m.

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

L.M.S.R. Dividend

THE first of the main-line railway companies to make known its net revenues for the year 1942, and the dividend which the directors recommend to be paid on the ordinary stock, is the London Midland & Scottish Railway Company. The official announcement issued by the directors on February 12, bears out the expectation of an increase in the distribution to ordinary stockholders; at 2½ per cent. actual, less tax, it compares with 2 per cent. a year ago; and it is the highest payment on the stock since that for 1929, when 4½ per cent. was paid. The net revenue of the company was £15,590,000, an increase of £340,000 compared with that for the previous year. Once again, the directors are setting aside £400,000 for wartime contingencies, and, including the amount brought forward from 1941, £199,000, there is a total of £15,389,000 available for interest on debenture stocks and for dividends on other stocks. After making payment in full on the 4 per cent. guaranteed stock, 4 per cent. preference stock, and 4 per cent. preference stock (1923), and providing for 2½ per cent. on the ordinary stock, the amount to be carried forward is £95,000. The figures given in the preliminary statement, which is reproduced on page 202, suggest that again there has been an increase in revenues other than those included in the pool of net revenues under the financial agreement with the Government. The maintenance of the allocation to wartime contingencies reserve, coupled with the higher ordinary dividend, has made it necessary to carry forward £104,000 less than the amount brought in. The net revenue announced by the company does not, of course, reflect with any accuracy the true earnings of the company during last year, for no matter how great the amount which it may have contributed to the total pooled revenues, its allocation of net revenue from the pool is fixed at £14,749,698, under the financial agreement with the Government. The revenues which fall outside the pool are necessarily small in proportion.

Government and Controls

The Government has not had matters all its own way recently in some of the measures it has sought to have sanctioned by the House of Commons. Members have become a little apprehensive as to the wide use that might be made of certain powers that have been sought. It is, perhaps, not without significance, and may, indeed, denote a healthy trend in the watchfulness of members, that after a lively debate an Order in Council, giving wide powers to the Minister of War Transport in dealing with the road industry, was annulled on February 3. A report of the debate was given in our last week's issue, and from that it will be seen that some of the comments from members were pointed as to the inroads which are being made by bureaucracy into democratic procedure. Over the debate on the Catering Wages Bill, the Government also had to face some very widespread opposition, and Mr. Bevin was moved to make certain observations which might have a wider application than to the catering industry. It is worth noting that he declared that the Government takes the view unanimously, as a fixed policy, that it is its duty to encourage in every way it can self-government in industry. That will be heartening news to some industries, of which not the least is that concerned with the railways, which might be excused for wondering whether the reverse has not been the case. Earlier Mr. Bevin had declared "I am one of those who do not separate pre-war, war, and post-war, as if they were three separate states of existence. One is an intensification of another; what you do in one has a great effect on the other." That again bears on matters we have raised from time to time in relation to the railway industry.

Improved Lighting on Trains

Since the publication of the article on the above subject in our February 5 issue, Mr. P. J. Noel-Baker, Joint Parliamentary Secretary to the Ministry of War Transport, has made it clear (as reported on p. 177 of THE RAILWAY GAZETTE dated February 12) that the press statements to which we referred were erroneous and based on a misunderstanding of the position. The Ministry's statement that the alterations on the main-line railways were to take place "almost immediately" related solely to the action of the Southern Railway in leaving lights on in carriages while trains are standing in stations, and not, as a press correspondent assumed, to the whole of the improvements. Further, the statement attributed to the Ministry that the improved lighting would enable passengers to read in comfort in every seat, and the expectation that eventually all trains would have uniform lighting, were not, in fact, made by it. We gladly publish these facts, but naturally adhere to the view that unfortunate statements of this character are likely to react unfavourably on the railway companies which would naturally welcome any efforts by the Ministry to discourage

the travelling public from expecting any sweeping improvement in the lighting while the risk of air attack remains. Work is proceeding steadily on all lines and the improvements are becoming noticeable, although in the main they are far from enabling passengers to read in comfort in all seats. It should be obvious to all passengers, however, that in those compartment coaches which are not fitted with blinds, it is impossible to provide satisfactory lighting for the corner seats under blackout conditions without causing an excessive spill of light from the windows and doors.

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No C.P.R. Ordinary Dividend for 1942

The decision of the directors of the Canadian Pacific Railway Company to pay no dividend on the \$335,000,000 ordinary stock for the year 1942, caused some disappointment because of the substantial rise that has been shown in the monthly traffic. The last payment was 5 per cent. in respect of 1931. The board issued a statement saying that it had decided against declaring a dividend on the ordinary stock; during the past three years the funded debt of the company had been substantially reduced, but fixed charges were still higher than they were during the year 1931. It was felt that these could be brought down to something like the former level before distribution to stockholders was renewed. The directors had borne in mind that after the war there would probably be a period of readjustment with unpredictable reactions on the earnings and expenses of the transport companies, and that it was in the best interests of the stockholders to conserve the company's resources, so that it might face the problems and difficulties of the post-war period in a strong financial position. According to the monthly traffic figures, gross earnings for 1942 were \$256,865,000 or \$35,419,000 more than in 1941. Net earnings were \$48,187,000, an increase of \$2,230,000, excluding ancillary revenue which in 1941 amounted to \$13,382,000. In that year the net income after payment of fixed charges amounting to \$24,978,200, was \$34,361,400, and after paying preference dividend, a balance of \$29,318,700 was transferred to profit and loss account. At the annual meeting of the C.P.R. held in Montreal last May, the Chairman, Mr. D. C. Coleman, warned stockholders against undue optimism and pointed to the necessity for taking into consideration the large indebtedness maturing during the next few years.

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Overseas Railway Traffic

Not much movement has been apparent in Argentine railway securities recently as the difficulties under which the companies labour are fully realised. Meanwhile the traffic of the British-owned railways continue to expand, except on the Buenos Ayres Western, which in the 31st and 32nd weeks of the financial year shows a net decrease of £7,320. In the same two weeks the advances in gross earnings are £92,745 on the Central Argentine, £56,400 on the Buenos Ayres Great Southern, £9,120 on the Buenos Ayres & Pacific, £5,496 on the Entre Rios, and £2,472 on the Argentine North Eastern. Against a decrease of £221,600 in the gross earnings of the Canadian Pacific for the ten days to January 31 there is set an increase of £14,400 for the week to February 7. United of Havana traffic for the 32 weeks of the financial year amount to £1,454,852, an advance of no less than £816,133.

	No. of week	Weekly traffic	Inc. or decrease	Aggregate traffic	Inc. or decrease
Buenos Ayres & Pacific*	32nd	110,040	£ 3,540	3,005,640	384,660
Buenos Ayres Great Southern*	32nd	206,940	25,320	4,892,520	404,460
Buenos Ayres Western*	32nd	60,060	11,220	1,680,060	59,340
Central Argentine*	32nd	153,201	44,655	4,160,472	779,745
Canadian Pacific	5th	915,800	14,400	4,701,400	68,000

* Pesos converted at 16½ to £.

Antofagasta traffic from January 1 to February 7 of 1943 amount to £161,590, an improvement of £40,060.

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The Future of Inland Transport

Even in normal times the chairman of any important enterprise naturally feels reluctant to say much about the future, and in the present abnormal days there are so many uncertain factors that it becomes impossible to forecast accurately the position for any considerable time ahead. In a review of the year 1942 which Sir J. Frederick Heaton, Chairman & Managing Director of Thomas Tilling Limited, circulated with the report and accounts in lieu of delivering a speech at the 46th annual general meeting of the company, which was held in London yesterday, Sir Frederick said that in a general way there must, nevertheless, be constantly in the minds of those with substantial transport interests the one most important subject, namely, post-war future of inland transport. So far as industry generally is concerned, he expressed his firm

belief in a policy of private enterprise, and said that in his view it is on this basis only that the country can look forward with any degree of confidence to regaining its old prosperity. He remarked that there are certain special circumstances in the case of transport, and in some quarters we are told that full nationalisation is the solution, whilst others put forward alternative proposals for setting up a public authority for the purpose of acquiring and co-ordinating the various competing interests. Whether we like it or not, concluded Sir Frederick, the subject will no doubt become a live issue before long. He was unable to say further than that the directors of Thomas Tilling Limited could but watch the course of events and, as and when developments arise, deal with them in such manner as they deem best.

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Belfast & County Down Railway

The report for the year 1942 states that under the Railway Companies (Accounts & Returns) Northern Ireland Order, 1943, the accounts are submitted in modified form and it is therefore not possible in the public interest to go into the same detail as formerly with regard to the operations of the company. The following is a summary of the results, compared with those of the preceding year:—

	1941	1942
Net receipts from businesses	£ 126,628	£ 81,046
Miscellaneous receipts, net	8,997	12,329
Total net income	135,625	93,375

From these figures it is clear that there has been a considerable decrease in net revenue in 1942, the greater part of which occurred in the latter half of the year. Costs both of wages and supplies continue to increase, and great difficulty is still being experienced in obtaining the normal requirements of materials and stores. After adding £2,521 brought forward and providing £14,095 for interest, rentals, other fixed charges, and A.R.P., there is a balance of £81,801. From this are appropriated £49,000 to reserve for taxation and £3,000 to reserve for contingencies, leaving £29,801 balance available for dividend. Payment of the year's dividend on the baronial guaranteed shares requires £510, and the two half-yearly dividends on the 4½ per cent. "A" preference stock take £2,250. Two years' arrears (1929 and 1930) are to be paid on the 5 per cent. preference stock, absorbing £24,814, and leaving £2,227 to be carried forward.

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Felling Overbridge Arches

During the past year or so attention has been directed to the methods employed for felling arches over railway lines, by one or two illustrated descriptions that have appeared. In the course of his presidential address to the Permanent Way Institution, Mr. F. E. Harrison said he wondered how often it occurred that railway companies found it necessary to fell such arches, and stated that in the North-Eastern Area of the L.N.E.R. some seven cases came to his mind during the last 15 years or so. Some of these demolitions were required to provide room for extensions, others on account of the condition of the arches by reason of subsistences due to mine workings, and some on account of lack of clearance, perhaps due to the extraction of coal. We have no figures available to indicate how frequently the felling of arches has been necessitated in recent years, but doubtless the conditions arise most frequently in mining areas such as those of the North-East Coast and South Wales. There are two methods of tackling such demolition, one by the use of explosives, and the other by lifting a joist or girder by steam cranes upwards through the crown of the arch. If all goes well, the use of explosives gives greater exactitude in the lines of fracture which may be expected. On the other hand, there are instances where the environment makes the use of explosives unwise. As Mr. Harrison remarked, the process of demolition by cranes is very sure and quick; moreover, the cranes are required at the site, in any event, for removing the debris. If the width of the arch, apart from any question of span, is considerable, lifting by cranes may be impracticable. In our issue of October 23, 1942, we published an illustrated article describing the procedure in felling by explosives on the G.W.R., and an example of demolition by lifting was described in our issue of October 18, 1940, page 409.

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The American Rail Problem

A matter of increasing concern to the engineering departments of American railways is the fact that the laying of new rails is far from keeping pace with the growth of traffic, due to the difficulty of obtaining adequate supplies. The peak in rail replacement occurred in 1926, when 2,209,873 tons of new rail were laid; by 1929 the figure was still as high as 1,958,489 tons, but by 1932, in the depression, it had dropped to 394,536 tons, and even in 1941 had not recovered to more than 1,159,000 tons. Whereas the average tonnage of new rail laid annually from 1922 to 1931 was 1,773,660, in the following decade it was only

759,914. The peak in traffic was reached in 1929, when 1,294,412 million ton-miles of freight (including wagons, engines and tenders) was moved; in 1932 the movement was down to 758,011 million ton-miles, but in 1941 it had recovered to 1,194,608 million, and in 1942 is surpassing all previous records. From 1922 to 1931, therefore, the railways were laying 1.55 tons of new rail in replacement to every million gross ton-miles of traffic, whereas from 1932 to 1941 the corresponding figure was only 0.79 ton. Though the track structure has given a very creditable account of itself through the war period until now, the danger signal of overworked rails is becoming more clearly seen in the ever-increasing frequency of transverse fissure failures. The development and constant improvement of the fissure detector cars has certainly reduced the risks of derailment from this cause, but a large proportion of the failures still occur in the track before detection, and over some main routes the cars are now being operated at as frequent intervals as 60 days, as compared with the former half-yearly and yearly intervals. Commenting on the situation, our contemporary the *Railway Age* remarks "Rail warrants more consideration from those in authority than it has been given to date—and warrants it as a war measure."

....

Driving Wheel Diameters

There has been a marked tendency in recent years towards a reduction in the diameter of the driving wheels of locomotives intended for passenger service. Improvements in front-end design, permitting locomotives to get rid of their exhaust steam with far greater freedom than formerly, have encouraged designers to avail themselves of the higher tractive effort obtained with wheels of smaller diameter, and thereby to make possible more rapid acceleration from stops and slacks, without at the same time impairing the capacity of their locomotives for speed. It was possibly the Nord Railway of France, with its 6 ft. 3 in. Pacifics, that first demonstrated the ability of locomotives of this moderate wheel diameter to sustain high speeds with substantial loads over long distances, at a time when from 6 ft. 6 in. to 6 ft. 9 in. was the wheel diameter in most general use for express passenger work. In recent years the "general purpose" types that have been built in such large numbers in this country for mixed-traffic service, and equipped with driving wheels of moderate size to enable them to handle heavy freight trains with competence, show this capacity for high speed in ample measure. Most notable in this category are the "Merchant Navy" Pacifics of the Southern Railway, of which the accelerative powers into the higher ranges of speed with passenger expresses can afford some quite electrifying sensations to travellers over the West of England main line between Salisbury and Exeter. Like the "Green Arrow" 2-6-2 engines of the L.N.E.R., the Southern 4-6-2s have 6 ft. 2 in. driving wheels, and both types have been timed at speeds up to 90 m.p.h., as have also the Stanier Class "5" 4-6-0s on the L.M.S.R., with wheels of 6 ft. diameter only. On the debit side of the account, no doubt, is the relatively high piston speed of small-wheel locomotives at such rapid rates of travel, but here again modern front-end design, efficient lubrication, and the use of piston-valves reduce this objection to smaller dimensions.

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Britain's Chief Post-War Industry?

Mr. Ernest Bevin, Minister of Labour & National Service, had to meet considerable opposition in the House of Commons on February 9, when his Catering Wages Bill received a second reading by 283 votes to 116. His forecast of Great Britain as a world tourist centre, to which foreigners would flock to see the scars of battle and the men and women who had withstood the *Luftwaffe*, seems to us a dismal prospect. The Government appears to think that a State-controlled catering industry would assist in attracting visitors. To that extent it would be of advantage to the railways in stimulating passenger traffic. But surely winning the war in order to become a country analogous to Switzerland is a depressing view of our peace aims! Before the war of 1914-19, the Isle of Wight was much favoured by wealthier Germans as a honeymoon resort. It was then stated that had Germany defeated us in that conflict, the whole of Great Britain might have been given over to the entertainment of Germans on vacation; all our manufacturing activities being transferred to Germany. Earlier in the present war it had been suggested that in the event of a German victory, some similar use might be found for this country; heavy industries, of course, would be concentrated, as far as possible, in the Fatherland. It is surely not the intention that, after waging to victory a war of the magnitude of the present conflict, we should adopt a "design for living" drawn up by our aggressors?

Delay in Civil Aviation Planning

IT is now two months since Captain Balfour, Under-Secretary for Air, informed the House of Commons that Parliament would be informed as soon as possible of the bold measures which the Government contemplated should be taken to found "a policy of post-war civil aviation which will be worthy of our people." He then indicated that the proposals were under active consideration. Nothing further having transpired, however, except in the shape of an increasing public interest in the subject, the Marquess of Londonderry initiated a debate in the House of Lords on February 10. In the course of this he called attention to the vital necessity of securing for this country a due share in the development of air transport, so vital to the maintenance of communications throughout the Empire and asked the Government for an assurance that the subject was receiving immediate and earnest attention as being one of the most urgent of post-war problems. In a challenging speech he argued that even now a full appreciation of the potentialities of aircraft was still lacking and pressed the Government to see that a policy was laid down and forthwith put into operation. He hoped that it might be possible to implement lend-lease measures and so obtain the aircraft immediately required for a short-term policy.

In reply, Lord Sherwood, Joint Under-Secretary for Air, pointed out that the first aim of the Government was to win the war. At the same time, they were giving earnest study to civil aviation and the types of aircraft which would be required after the war. A small technical committee had just reported on that point and its report would receive the most careful consideration. There was, however, much preparatory work to be done before the Government could decide a policy, particularly as freedom of the air without international regulation would mean fiercer competition than any yet seen and involve the intensification of heavy national subsidies. For this reason he made it clear that it would be necessary to consult the Dominions and other members of the United Nations before any decision is reached. The terms of this reply were extremely disappointing, having regard to the overwhelming lead which America has incurred in the manufacture of new types of civil aircraft and the very lengthy time which will be required for the designing and construction of comparable British machines, and it is to be hoped that the Marquess of Londonderry will be able to secure a more reassuring statement when he raises the question again a month hence. The British railway companies are particularly interested in this question, having regard to the very great possibilities for the post-war development of civil aviation between Great Britain and the Continent, in connection with which their ability to co-ordinate rail, water, and air travel should enable them to play a very important part.

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Indian Railways and the State

NOW that the undertakings of the Bengal & North Western and of the Rohilkund & Kumaon Railway Companies, as from January 1, 1943, have become Government lines both in ownership and in operation, the number of the more important Indian railway systems still worked by companies has been reduced to three, namely, the Bengal-Nagpur, the Madras & Southern Mahratta, and the South Indian. There is every indication that these three undertakings will become State-operated so soon as their respective working contracts expire. The present position of the principal railways in relation to the Government of India is indicated in the following table:—

State-owned and operated	Miles	Company-operated	Miles
Bengal & Assam	3,472	Bengal-Nagpur	3,297
Bombay, Baroda & Central India	2,986	Madras & Southern Mahratta	2,804
East Indian	4,325	South Indian	2,267
Great Indian Peninsula	3,565		
North-Western	6,952		
Oudh & Tirhut	2,655		

These figures do not include railways worked for Indian Native States or for other companies. There are in addition two important systems worked by Native States Administrations, namely, 1,360 miles by H.E.H. the Nizam's State Railway, and the 748 miles by the Mysore State Railway.

The Bengal & North Western and Rohilkund & Kumaon Railways, under company management, were worked as one system from headquarters at Gorakhpur, although possessing separate boards of directors. They were unique among Class I railways in India, in being entirely on the metre gauge, and in having been developed since their incorporation in 1882 without any guarantee or financial assistance beyond the free grant of the land required for railway purposes. Another special characteristic was that they were the only big Indian lines not based upon one or other of the four large cities of Delhi, Bombay, Calcutta, and Madras. They had an exceptionally low operating

ratio (due to certain special conditions) and at the same time had the lowest scale of passenger fares in India; their goods rates also were very favourable to the public. For some years they had been steadily improving the accommodation for lower class passengers. Their services to India have been far-reaching, and the exceptional prosperity enjoyed by the two undertakings in the shape of two-figure distributions to the stockholders from 1918 onwards has been thoroughly deserved. Early this year stockholders are expected to receive in the winding-up £310 for each £100 of stock held, with good prospects of an additional but smaller contribution when the accounts are finally adjusted with the Indian Government.

At the end of 1942 the Bengal & North Western was working 1,305 miles of its own railway and 780 miles of the Tirhut State Railway, also on the metre gauge. The joint system comprised a complicated network of lines on the left bank of the Ganges between Katihar in the east and Lucknow in the west, and its branches crossed that river to Cawnpore and to Allahabad. Other towns served were Benares, Gorakhpur, Darbhanga, and Muzafferpur. Connection was made with the East Indian Railway by wagon-ferry at Mokameh Ghat, and by junction at other points further west. There was a through east to west metre gauge connection with the Bombay, Baroda & Central India Railway via Cawnpore and via the Rohilkund & Kumaon Railway and Kasganj; also eastwards with the Eastern Bengal Railway at Katihar. It has been said that possibly no part of India was better served, as there was approximately one mile of railway to every 20 square miles of country.

The Rohilkund & Kumaon Railway joint system consisted of the company's own lines of 259 miles and of 311 miles of the Lucknow-Bareilly State Railway. Closely associated with the Bengal & North Western Railway it had connections with the Bombay, Baroda & Central India metre gauge lines via Kasganj, and served the sub-montane belt of the United Provinces between Lucknow and Moradabad. Some of the districts served by these two railway systems, besides being very fertile, are among the most densely populated in India. Now that the working of the company lines of the two railways, and of the Tirhut and the Lucknow-Bareilly State Railways, has been taken over by the State, the two undertakings have been formed into a group under the title of the Oudh & Tirhut Railway. The rolling stock of the combined system at the date of acquisition consisted of 439 locomotives, 1,762 carriages, and 13,941 wagons, and there were 13 steamboats.

With respect to the remaining company-worked lines which are likely to be taken over for operation by the State, there is an option of purchase under the existing contracts at December 31, 1945, of the undertakings of the Madras & Southern Mahratta and of the South Indian Railway Companies, which the State would be inclined to take over together because of the interchange of portions of lines between these two systems when the original Madras Railway was acquired at the end of 1907. A revision of the Madras & Southern Mahratta contracts was agreed in 1937—at the end of which year the then existing contract was due to expire—so as to give the State an option of purchase at the end of 1945, on repayment of the company's ordinary stock at par.

The original Madras Railway Company, registered in 1853, was one of the important early group of the old guaranteed companies enjoying a 5 per cent. guarantee from the Indian Government. At the time when its contract with the Government was due to expire—on December 31, 1907—it owned 905 miles and worked some 685 miles of lines including Native States' lines. At the same time the Southern Mahratta Railway Company, the original contract with which dated from 1882, was working a system of metre-gauge lines. The lines formerly owned and worked by the Great Southern India and the Carnatic Railway Companies were amalgamated on July 1, 1874, under the title of the South India Railway which, on January 1, 1891, was purchased by the State and handed over for working to a new company—the existing South Indian Railway Co. Ltd. At the end of 1907 the South Indian working contract had three more years to run, and the Southern Mahratta contract was still in being. A comprehensive arrangement was thereupon made under which the South Indian Railway was to take over, as from January 1, 1908, the whole of the southern portion of the former Madras Railway—that is, from Jalapet to Mangalore on the west coast, which is broad gauge, and also the Nilgiri—Ootacamund and the Shoranur—Cochin metre-gauge lines, and the Tirupattur—Krishnagiri and the Morappur—Dharmapur narrow-gauge lines. It was also given running powers over the Madras—Bangalore (broad-gauge) section of the Madras Railway, but surrendered its northern branches from Katpadi to Gudur and from Pakala to Dharmavaram to a new company, the Madras & Southern Mahratta Railway Company formed on January 1, 1908. This new company also took over the railways of the former Southern Mahratta Railway Company. Under the present contracts the Government has the power to take over on December 31, 1945,

on twelve months' notice, the South Indian undertaking, on paying the company its share capital in sterling at par.

The South Indian has open 632 miles of broad gauge, 1,536 (including 18 miles electrified) of metre gauge, and 99 miles of 2 ft. 6 in. gauge. It possesses 545 steam locomotives, 1,482 passenger carriages, 7,090 goods vehicles and 2,198 miscellaneous vehicles, and two steamers. Its electric stock includes 4 locomotives, 24 multiple units consisting of 24 motors, 48 trailers, and it has three diesel railcars. The Madras & Southern Mahratta has open 1,712 miles metre gauge and 1,091 broad gauge. Its metre gauge rolling stock includes 321 locomotives, 908 carriages, and 6,922 wagons. Broad gauge locomotives number 302, carriages 865, and wagons 6,316, and it has 6 diesel-electric railcars.

The contract for the working of the Bengal-Nagpur Railway may be determined by the Government, on giving twelve months' previous notice, on December 31, 1950, or on December 31 of any succeeding fifth year. The original contract of March 9, 1887, provided for the taking over of the Nagpur-Chhatisgarh State Railway of 146 miles in length on the metre gauge, and the Bilaspur-Etawah State Railway of 36 miles on the broad gauge, connecting Katni and Umaria. By 1913 the system included 1,876 miles on the 5 ft. 6 in. gauge and 797 miles on the 2 ft. 6 in. gauge. The length now worked is 2,498 miles broad gauge, and 799 miles 2 ft. 6 in. gauge. On the broad gauge the company possesses 739 locomotives, 2,068 coaching vehicles, and 25,167 goods vehicles. On the narrow gauge there are 107 locomotives, 813 coaching vehicles, and 3,882 goods vehicles. In the steamboat service 4 wagon ferries and 4 steam launches are in use.

The principal routes are: Calcutta to Nagpur—part of the shortest through connection, Calcutta—Bombay and Calcutta—Waltair, part of the through Calcutta—Madras run. The Bengal-Nagpur shares with the East Indian Railway the traffic from the Bengal coalfields for Calcutta and export (via the Hoogli wagon ferry from the terminus at Howrah to Calcutta) and also serves the Tata iron and steel works. The original contract provided for a guaranteed interest of 4 per cent. on the company's ordinary capital, but by a revised contract of November 5, 1912, it was laid down that this rate should be reduced after 1913, to 3½ per cent., the company to share also in any surplus profits. The railway may be taken over at the end of 1950, or at the end of any succeeding fifth year, on repaying the company's ordinary stock at par in sterling in London.

Great Northern Railway (Ireland)

NET income reached its peak in the middle of the year 1942 and thereafter began to decline on account of the rate of increase in expenditure due to rising costs and prices exceeding the rate of increase in gross receipts. For the whole year the gross receipts from the railway amounted to £2,610,517, compared with £2,204,681 in 1941, but railway expenditure advanced from £1,601,787 to £1,972,307, leaving railway net receipts of £638,210, against £602,894. Road transport net receipts in Eire improved from £33,601 to £36,935, and net receipts from hotels, refreshment rooms, and cars were £7,961 higher, at £22,328. The total net income of £746,549 compares with £689,070 for 1941, which showed the exceptional improvement of £534,958 over the corresponding figure for 1940. After providing £119,236 for fixed charges, £256,102 for income tax reserve, £195,000 for reserve for contingent liabilities, including war damage contributions and E.P.T., and allowing for the balance from the previous year, the amount available for dividend is £179,293. On October 1 last an interim dividend of 2 per cent. was paid on the consolidated 4 per cent. guaranteed stock, and now it is proposed to pay on April 1 a final dividend on this stock, a full year's dividend on the 4 per cent. preference stock, and 1½ per cent. on the ordinary stock. The following table gives the general financial position as compared with that of the previous year:—

	1941	1942
Total expenditure on capital account	10,052,929	10,052,929
Gross receipts from businesses	2,472,671	2,596,414
Revenue expenditure on ditto	1,821,809	2,198,941
Net receipts of ditto	650,862	697,473
Miscellaneous receipts (net)	38,207	49,076
Total net income	689,070	746,549
Interest, rentals, and other fixed charges	461,524	570,338
Dividends on guaranteed and preference stocks	184,280	114,738
Dividend on ordinary stock	40,507	60,760
Rate per cent.	1	1½
Brought forward	323	3,082
Carried forward	3,082	3,795

All the main heads of traffic showed substantial increases, apart from the moderate advance under coal, coke, and patent fuel. First, second, and third class receipts shared in the improvement, as also did parcels, and passenger train receipts totalled £1,345,395

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against £1,097,385. On the County Donegal Joint Lines only third class passengers were carried. Goods train receipts advanced from £1,045,388 to £1,197,135. As before indicated, the percentage of traffic expenditure to traffic receipts rose from 73.11 to 75.89. Locomotive running and traffic expenses were £1,103,218 against £899,171; maintenance and renewal of way and works cost £307,761 compared with £265,209; and expenditure on maintenance and renewal of rolling stock rose from £284,440 to £379,184. Train-miles (loaded trains) were 4,425,580, against 4,379,502.

Transport of Flowers

ON September 26, 1942, the Minister of War Transport issued an Order directing that as from November 1 no flowers or plants should be accepted for conveyance by rail except when they are for export, or used for producing food crops, or consist of hardy nursery stock not in soil or in pots. The reason for this direction was that, due to the very heavy loads now being carried by passenger trains, it was no longer possible to provide additional vans on passenger trains to accommodate the flower traffic, or to provide the staff required for dealing with the traffic or the special cartage facilities required. A further feature, of course, was the undesirability of encouraging the continuance of flower traffic while strenuous efforts were being made to restrict passenger travel. The introduction of this restriction led to a substantial transfer of cut-flower traffic to the parcels post and on December 16 the Treasury issued the Inland Post Amendment (No. 4) Warrant, prohibiting the sending of flowers or plants, with the exceptions mentioned above, by inland-parcels post.

With the advent of the early spring flower season in the Scilly Islands and Cornwall, it became clear that the intention of the Minister was being defeated in various ways for the purpose of profit. It was found, for instance, that a considerable quantity of cut flowers was being sent by rail in parcels not properly declared or in the shape of passengers' luggage, and that considerable use was being made of the letter post, as to which no restriction operated, necessitating a substantial increase in the number of mail bags to be conveyed by railway. As from February 13, therefore, the despatch of flowers by letter post has been prohibited by the Post Office, and on February 13 the Minister of War Transport issued a further Order directing that no person shall consign or tender or cause to be consigned or tendered for conveyance by rail any flowers or plants, with the exceptions previously stated. The Order provides, however, that a railway company may, in its absolute discretion, permit a passenger to carry with him in his compartment, for purposes unconnected with trade or business, a small quantity of flowers or plants unpacked, or packed in such a manner as will disclose their nature on sight.

Sir Ernest Lemon's Railway Career

WITH the departure of Sir Ernest Lemon from the ranks of the London Midland & Scottish Railway, an outstanding figure passes from the transportation industry, and a man well known in the general industrial world. He was trained as an engineer, and it was somewhat of a surprise when in 1931 he was appointed Operating & Commercial Vice-President. In doing this the board of the L.M.S.R. was taking an unorthodox step, but the late Lord Stamp no doubt recognised the value of an engineer's experience being applied to the problems of railway operating and commercial practice. The appointment was later amply justified; he was the right man for the job.

He was born in Dorset in 1884, of Cornish extraction. His early training was at the Hyde Park Works of the North British Locomotive Co. Ltd.; he passed through all sections of the plant. Later he served with Brown Brothers, hydraulic engineers, of Edinburgh, and gained theoretical technical training at the Heriot-Watt College at Edinburgh. On leaving Brown Brothers, he joined the Highland Railway Company, and obtained running shed experience at Inverness, and then became a member of the staff of Hurst Nelson & Co. Ltd. at Motherwell. In August, 1911, he entered the service of the Midland Railway Company as Chief Wagon Inspector, and became Works Manager in the Carriage & Wagon Department at Derby in 1917. Consequent on the grouping of the British railways in January, 1923, he was promoted to Divisional Carriage & Wagon Superintendent, first at Derby and then at Newton Heath and Earlstown, and was largely concerned in the introduction of mass production methods, both for new construction and repairs, in the Carriage & Wagon works of the L.M.S.R. When in January, 1927, Mr. R. W. Reid was appointed Vice-President for Works & Ancillary Undertakings, Mr. Lemon (as he was then) suc-

ceeded him as Carriage & Wagon Superintendent of the company, which position he held until January, 1931, when he was appointed Chief Mechanical Engineer in succession to Sir Henry Fowler. In November, 1931, he became Operating & Commercial Vice-President on the retirement of Mr. J. H. Follows.

For the next seven years he was engaged on projects for increasing the efficiency of all operations in the Traffic Department. In his view, as the overhead charges had to be met in any case, the only way to reduce operating expenditure was by the introduction of improved methods of handling traffic both on the running lines and in the depots. With this end in view, schemes for modernising motive power depots were prepared and put into operation.* The improvement of the layout of the yards and sheds to give greater freedom of engine movements and, by the installation of mechanical coaling and ashlifting plants, ensured continuous movement of engines through the depots for coaling, watering, ash disposal, turning, and examination purposes. In addition, the depots were reorganised into areas, with parent or main depots, and subsidiary depots or garages; the main depots were made responsible for regular examinations and repairs, and the garages undertook minor examinations and running repairs during stoppages not exceeding 24 hours. The object of all this modernisation was to increase the availability and reliability of the engines, with greater operating efficiency, at the same time eliminating lost motion, wasteful energy, and delay. It was a step in the direction of more intensive user of locomotive stock. The cost of schemes authorised amounted to approximately £1,000,000. The basic principles used were the same as those employed when the continuous production methods for building locomotives, carriages, and wagons were introduced on the L.M.S.R. some years earlier. Similarly, he dealt with the modernisation of goods terminals, where mechanisation and altered methods of handling were introduced to reduce costs with added efficiency and quicker transits.† Acceleration of train services, both main-line passenger and freight, were a prominent feature of his regime, and the mechanisation of Toton Marshalling Yard was due to his initiative and stimulus.

On the commercial side, with Mr. Ashton Davies as Chief Commercial Manager, modern business principles were introduced; transport was to be made a saleable commodity, and to this end commercial research was set to work to find out what the public wanted and why. Facilities for travel were overhauled, improved amenities introduced, untapped sources of travel were brought to light, and train services revised and extended to meet the new traffics which developed. Salesmanship was given a special emphasis from the railway angle, and to stimulate the staff, the competitive element was brought to bear by the adoption of Quota Leagues at stations and in districts. Periodical pre-war visits to the United States and Canada enabled contacts to be made there with railway executives, and new methods of handling traffic provided an added stimulus to his ideas on railway problems.

In June, 1938, Mr. Lemon was released by the L.M.S.R. board at the express desire of the Prime Minister to become Director-General of Aircraft Production for the planning and organisation of production of engines, aircraft, and equipment, with a seat on the Air Council. By April, 1940, he had successfully completed the particular programme of production laid down; the Secretary of State for Air stated at the time that the programme had been executed in advance of the date contemplated, and that it would be difficult to overestimate the value of the services he had rendered the Air Ministry. Mr. Lemon thereupon resumed his duties with the L.M.S.R. as Vice-President (Operating & Commercial). In the New Year Honours for 1941, the King conferred upon him the Order of Knight Bachelor for services rendered to the Air Ministry. Since his return to the L.M.S.R., in addition to his duties there, Sir Ernest Lemon was engaged for a period on a special investigation on behalf of the Minister of Production in connection with the output of certain types of aircraft, and he still remains a member of the Minister's Industrial Panel.

Sir Ernest is a man fertile in ideas, and backed by an engineer's training, he reduced all problems to that practical plane before planning and building up for the required improvement. Measure the problem first; if it is big, reduce it to its smaller elements, and then measure, was his method. The workshop training ever persisted, and by practical means every problem was brought from theory down to reality. Throughout his career, he was always approachable and willing to listen to another point of view, but foremost was the effort to improve the efficiency of the undertaking he served, and the developments on the L.M.S.R. over the past decade were witness to that endeavour. No doubt his energies will now turn to other fields of industry where an engineer's outlook can find some task that requires to be done.

* "Reorganisation of the Motive Power Department of the L.M.S.R."—THE RAILWAY GAZETTE, April 16, 23, and 30, 1937.

† "Modernising Goods Depots on the L.M.S.R."—THE RAILWAY GAZETTE, March 5, 1937.

LETTERS TO THE EDITOR

*(The Editor is not responsible for the opinions of correspondents)***"War Advance Claim by Senior Railway Staff"**

Feb. 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As one of the unfortunates, I have read with a good deal of pleasure the editorial on pp. 84 and 85 of your January 22 issue, which I have just seen. As you say, we are not so highly organised in trade unions as those earning lower salaries, and I should like to thank you for espousing our cause. How apt, too, is your point about the incidence of taxation!

You may be interested to know that we have also had a "raw deal" over last year's annual holidays which were limited to a fortnight. Staff earning up to £500 a year were paid salary equivalent to the holidays they were deprived of, thereby increasing the wartime advance of £41 (to which you refer in your editorial) to £50 in the case of an individual holding a £500 post.

It has been pointed out that if there is statutory obligation on the railway companies to pay staff up to £500 a year in lieu of holidays not taken, then salary qualifications cannot alter that obligation. Anyhow, we have simply been told that the decision is an all-group companies' instruction which is in conformity with the general wartime policy of the Ministry, for example, the attitude to war advances, and so forth.

Yours faithfully,

SUPERVISOR

Feb. 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I am so glad to see that you are championing the cause of a bonus for the over £500 a year railway staff. The whole position is unsound and most people would say untenable. The linking up of the Treasury with the railways in this particular matter is just about as sound as trying to link up John Citizen with Timbuctoo!

Yours faithfully,

RAILWAYMAN

Agreed Charges

50, White Lane, Chapeltown,
Near Sheffield. Feb. 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As a constant and keenly interested reader of your valuable journal, it seems a pity, if I may say so, that your censor should pass statements such as those made in the article headed "Agreed Charges" in your February 12 issue. Some of the statements give a completely inaccurate picture and tend to make traders feel that the point of view expressed is entirely one-sided.

The article refers to flat rates agreed with Government Departments and states that technically these are not agreed charges within the meaning of the 1933 Act, and therefore do not require the sanction of the Railway Rates Tribunal "as is essential in the case of charges with traders." Can it be explained please why, if approval is not necessary in one case, it should be necessary in the other in exactly similar circumstances?

How naive the whole article is. Later it is pointed out that what is known as the pink pamphlet contains the names of something like 5,000 firms. Now, as has been seen in the lists published, very many of these have already applied for agreed charges in connection with their returned empties, and presumably there are quite a number more to be added to those lists. I wonder how many of these it will be possible to deal with before March 31!

It was suggested that the "carriage paid" proposals would relieve the railway companies of a great deal of clerical work and so assist in the man-power problem. I very much wonder what they think of that suggestion now and whether in fact their work will not be considerably increased; whether, in fact, the main result of the "carriage paid" proposals will not be:

- (1) A very large increase in the railways companies' work;
- (2) a considerable dislocation of trade and industry.

Later in the article it is stated that under the agreed charge system both the railway companies and the traders secure appreciable saving in clerical and accountancy costs and that "the balance of advantage in this direction is with the trader!" Every trader knows the answer to that and comment from me is unnecessary.

Really, such out-pourings should not be published in a serious journal such as yours.

Yours faithfully,

H. R. CAMPFIELD-GILES, M.INST.T.

[The last paragraph in Mr. Campfield Giles's letter could fairly be applied to his own letter but we have published it so that our readers may judge for themselves the justice or otherwise of his comments. Surely he can appreciate how extremely undesirable it would be from a national security point of view for the Railway Rates Tribunal to have to consider in open court applications for flat rates for Government traffic involving the disclosure of much information of vital importance to the enemy! This was the sole reason for the Ministry of War Transport issuing the Order abrogating the statutory obligation as to the approval of agreed charges by the Tribunal. It is admitted that the introduction of agreed charges initially involves the railway companies in a considerable amount of additional clerical work, but thereafter they secure appreciable savings. If traders are not able also to effect material savings in clerical and accountancy work, perhaps Mr. Campfield Giles can explain why the number of applications for agreed charges which the railway companies decline for various reasons are normally very greatly in excess of the number finally arranged. As to agreed charges for returned empties, if the whole of the applications have not been heard by the tribunal by March 31, presumably the Minister of War Transport will find it possible suitably to amend his Direction accordingly. On the questions put forward as to "carriage paid" traffic, the answers are: (1) certainly not and, in fact, a substantial economy in manpower is being secured, and (2) we know of no suggestion that the cost of alterations in previous trading practice outweighs the national gain.—Ed. R.G.]

Sir Ernest Lemon

61, Salisbury Avenue,
St. Albans. Feb. 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In taking leave of Sir Ernest Lemon, who was my Chief for the past ten years, I do so with feelings of regret and pride; pride, in that I enjoyed and retained his confidence in every way; and regret, that no longer will his invigorating personality be with us on the L.M.S.R. As his personal assistant since 1932 I worked with him in the closest intimacy on all the problems he had to tackle, and they were many.

He was the mainspring behind the developments in all phases of traffic working on the L.M.S.R., inaugurated from 1932 to 1938, with benefits which placed the company in a most favourable position for handling the enormous war traffic which commenced to flow in 1939.

A man of forthright temperament, frank and without guile in all his dealings, he was the essence of loyalty to colleagues and officers alike, and looked only for the same loyalty in return. Essentially friendly at all times, cool in weighing up a problem and giving his decision, requiring no fuss to be made on his account when travelling about the line, he preferred seeing and talking to men at their jobs rather than reading long reports from them. One of his dicta was that the profits of a business are made on the workshop floor, and efficiency on the station platform or goods shed deck had a similar application. He was a great Chief in every way; he got a lot of good work done and did not mind who got the credit for it. Coupled with these qualities was a large charity of understanding, and an appreciative word of encouragement for everyone who worked for him. His heart was in the L.M.S.R. and will always so remain.

Yours faithfully,

H. G. SMITH

Publications Received**The Reminiscences of a Civil Engineering Contractor.**

By Robert Brodie. Bristol: John Wright & Sons, Ltd. 7½ in. x 5 in. 106 pp. Price 7s. 6d. net.—It is in everybody to write at least one full-length book the story of his own life, and the effort is well worth making when, as in Mr. Brodie's case, the tale is of successful creative enterprise in an impor-

tant branch of engineering. In 1877 the author became a pupil to an engineer engaged in constructing railway connections to the original Tay Bridge. In the years which followed he was employed on other railway works. Thus between 1879 and 1890 no less than five railways engaged his attention. These were the Montrose & Arbroath Railway, the Whitby & Loftus Railway, the Scarborough & Whitby Railway, the Mersey Railway and, finally, the Burntisland & Inverkeithing Railway. In

later years came greater responsibilities and also a wider variety of work. Aqueducts, harbour improvements, and even the salvaging of treasure from wrecked ships came within the author's scope. It is not possible to live a long and active life without meeting many interesting personalities and enjoying some amusing experiences: Mr. Brodie cherishes happy recollections of a number of notable engineers and men in public life and his autobiography is enlivened with entertaining anecdotes.

The Scrap Heap

A train arrived at Algiers from Oran six hours behind time. On enquiring the cause of the delay it was stated that the rails were covered with a thick layer of grasshoppers.—From "The Railway News" of May 23, 1874.

The attention of engineers has recently been called to two remarkable variations from the ordinary routine or invention—neither of which in fact are really new—but only novel in their application. We refer to the Pneumatic Railway and to the employment of electro magnetic engines upon railroads.—From the "American Railroad Journal" of November 1, 1842.

THEFTS ON NIGHT TRAINS

Two sleeping-car passengers travelling recently by the up-country night mail to Colombo woke to discover that they had been robbed of all their belongings, including the coat and trousers they had taken off for the night. They had to alight eventually from the train in Colombo in their pyjama suits. A few days earlier a similar incident occurred when another passenger was relieved of his coat and trousers.

RAILWAY FUEL ECONOMY

Some extracts from a recent broadcast by Mr. Freddy Grisewood of the B.B.C. and Mr. M. G. Bennett and Mr. R. Keane of the L.M.S.R.:

M.G.B.: Twenty years ago the Euston—Carlisle expresses used about 12½ tons of coal for the double journey, whereas five years ago they used only 10 tons, and that with heavier trains and at greater speeds. We're making sure that no coal is wasted. We measure all the coal on to the tenders of the locomotives and record the number of miles run by each engine.

F.G.: Mr. Keane is a firing instructor on the L.M.S.R., and he has been working on the footplate of engines for many years.

R.K.: Twenty years. We ride with the young firemen on the footplate and show them the best firing methods, and talk to them about what happens when coal is burnt and how the engine works. We do all we can to help the young

hands to understand what being a good fireman means.

F.G.: If it's not a secret, Mr. Keane, what is the right way to fire an engine?

R.K.: The best way is to put a little coal on the fire at a time. That prevents smoke, providing the dampers are being used properly. An engine uses coal at the same rate most of the time, because she's using steam at the same rate. Of course, you've got to use your common-sense and not keep so big a fire going when you've got a long down grade in front of you, or when you're near the end of the run. Our rule, generally, is six to eight shovels every two minutes.

M.G.B.: That's what we call controlled firing.

F.G.: What about electric trains?

M.G.B.: On the North London and Euston to Watford services alone, coasting down hill and approaching stops has been estimated to save 12,000 electric units a day. This, with less heating and reduced services, means something like 27 tons of coal saved each day.

R.K.: When the engine's finished its day's work you find an accumulation of fine half-burnt coal in the smoke-box at the front end. It's carried over from the fire-box by the blast. Small coal is also carried over through the tubes by the strength of the blast. That's what we call char, and this is all collected and used.

M.G.B.: It won't burn easily on some types of grates, but research has shown us new ways of using it. Mixed with coke, for instance it can be used on an ordinary hot-water boiler. Some of it goes to the power stations to make electricity to run electric trains. By picking up the spilt coal and collecting the char, the L.M.S.R. alone is salvaging 30,000 tons of fuel a year more than it did in peacetime. Steam trains are heated by steam from the engine. By cutting short the season for train heating this year we expect to save about 10,000 tons of coal.

"SUNNY SOUTH SAM" RETIRES

Many people have asked whether "Sunny South Sam," the Southern Railway's famous character, was a real person; and this speculation is provoked anew by the retirement of his latest prototype, Guard A. J. Goddard, after 53 years' service. For some years before the outbreak of war, "Sunny South Sam" had figured in

Southern Railway publications, in press advertisements, and on posters, as that genial, burly friend of hundreds of holiday travellers, the typical railway guard. Guard Goddard recently figured in a film entitled "London Terminus," produced by Verity Films, on behalf of the Government, for circulation abroad. He joined the L.S.W.R. at Twickenham as a signal boy, and, after spending some time as a porter at Fulwell, and at Wimbledon, became an assistant guard at Waterloo in 1897. After being promoted to guard, he was attached for some time to Weymouth; he then returned to Waterloo, and for last 35 years he has worked the Bournemouth expresses. In December, 1940, Guard Goddard received the Southern Railway's Gold Medal for 50 years' loyal and efficient service.

WORDS AND THEIR MEANINGS

"In Africa we have been witnessing the collapse of Rommel's logistics."—From an U.S.A. Military Report.

[Logistics is defined by General Brehon Somervell, commanding U.S. Services of Supply, as "The science of transportation and supply in war"—or "getting the right number of men, in the right place with the right equipment, at the right time."]

A man who was fined recently for refusing to leave a bus, when asked to do so by the conductress, stated that the bus had not been full; and the conductress agreed that she had not known how many seats were vacant on the upper deck. The chairman of the bench pointed out that it was an offence for anyone to try to board a bus when told by the conductor that it was full, even when the latter had made a mistake.

HISTORY REPEATING ITSELF

The demand for American locomotives is stated to be reviving. The Rogers shops at Paterson, New Jersey, will, it is expected, be running to their full capacity in a short time. These great locomotive works have shipped for Taganrog ten locomotives out of 65 ordered for Southern Russia.—From "The Railway News" of September 12, 1874.

TAILPIECE

The Minister of Labour has visualised post-war Britain as a world tourist centre.

We won't have any commerce—the thing just isn't done;

And rats will occupy the works—they'll call them "works" for fun.

The livelihood of Britain in those victorious days

Will come from bed-and-breakfast, with terms reduced for stays.

That's Britain—that was!

The railways will not pander to base commercial freights,

But merely do the pretty bits at special tourist rates.

They won't have any passengers except the sort that fill

Funiculars across the glen and spirals up the hill.

That's Britain—that was!

And grass in sleepy towns will spring the paving-stones between,

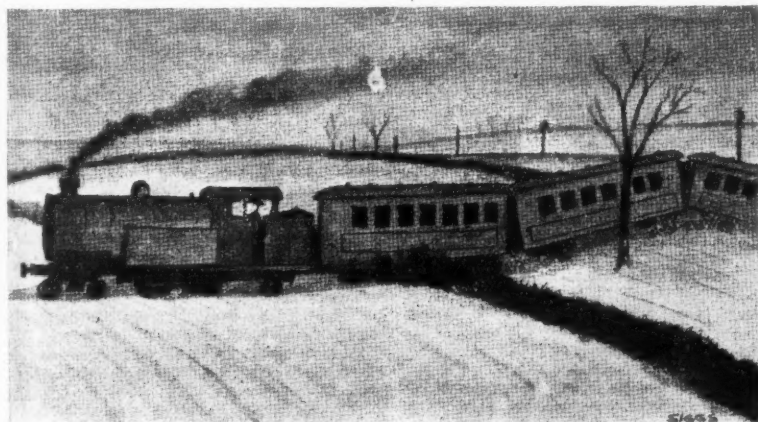
And gaffers sit a-yodelling upon the village green,

And folk from half the world away will shake their heads and say

"A quaint, delightful people, but they have had their day."

That's Britain—that was!"

E. C.



"Well, I think it was about TIME they improved the lighting on railways"

[Reproduced by permission of the proprietors of "Punch"]

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WESTERN AUSTRALIA

Perth Road Transport Extensions

Recent additions to the Perth & Suburban tramway system's services include the extension of the line from Victoria Park to Welshpool, a trolleybus extension on the Wembley route, and a new bus service to Maylands. The Welshpool tramway extension involves an additional track-mileage of 67 ch., and was introduced to provide a service for workers travelling to and from a large industrial establishment. Welshpool is served also by railway, but, as a large number of the works employees live in areas far from the latter, but near the tramway system, additional transport facilities were considered necessary. It is estimated that, when the factory, which at present is not fully completed, is in full production, approximately 850 persons will require transport, and that about half of these will use the railway, and the remainder the road, service. The latter, besides catering for the factory workers, will assist also in the development of the residential area alongside the route. The approximate cost of the extension, on which the service was inaugurated on September 21 last, was £7,800.

Residential development in the Wembley district beyond the trolleybus terminus in Cambridge Street has necessitated the provision of additional transport facilities, and an extension of the trolleybus route along Cambridge Street to Lissadell Street, a distance of 32 ch., was authorised towards the close of 1941. Difficulty in obtaining delivery of materials delayed the carrying-out of this extension, but the work now has been completed, and a service on the new section was commenced on September 13. The total length of this route, which commences at East Perth, is now 5 miles 20 ch. The approximate cost of the extension was £1,575.

The Maylands area is served by the suburban railway system and a tramway, but by reason of the configuration of the district, a portion forming a peninsula to the Swan River was formerly without regular transport facilities. Alternatives considered for serving this area were a spur tramline from the existing route, and a bus service; it was decided finally that the latter would meet the position best. This service commenced operation on November 1, 1942.

CANADA

Weather Hampers Railways

Railway officials in Canada who have had much experience of difficulties caused by bad weather during their years of service are agreed that the last week of 1942 presented them with the heaviest task of their careers in maintaining communications. Snowdrifts did not form the only obstacles; telegraph and telephone wires became covered with ice, which interfered with signalling and other operations. To the ordinary passengers was added a number of holiday travellers, and all were subject to considerable delay. Many trains were running several hours behind schedule, and one transcontinental express reached Montreal a day late. The main stations of that city were crowded with would-be travellers, including Service personnel, who had been

waiting for many hours for their trains and were uncertain when they would leave.

Abandonment of Lines

The elimination of duplicate or uneconomic rail services in Canada received a further impetus during 1941. According to the Dominion Bureau of Statistics, there was a net reduction in that year of 123.58 in railway mileage. A list of the principal lines abandoned is as follows:—

	Miles
Canadian National:	
Whitby to Port Perry	17.31
Yarker to Tweed	3.94
Hyde Park to Clinton Junction	22.93
Red Deer Junction to Red Deer	5.06
Oakland to Delta	5.40
Canadian Pacific:	
Mando to Point Fortune	6.80
Kingsbury to Windsor Mills	9.30
Temiscouata:	
Riviere du Loup to Connors	11.91

Railway Wagonloadings

The Dominion Bureau of Statistics states that railway wagonloadings in Canada during the week ended December 19 last totalled 65,169, compared with 61,760 in the corresponding week of 1941. The total for the week ended December 12 last was 66,724.

Wagonloadings in the Eastern Division decreased from 40,815 in the week ended December 19, 1941, to 40,277 in the corresponding week of 1942. Western-Division wagonloadings totalled 24,892 in the week ended December 19 last, against 20,945 in the corresponding period of 1941, due to substantial increases in grain, coal, livestock, and other traffic.

Total wagonloadings for 1942 up till December 19 of that year amounted to 3,326,507, an increase of 5.8 per cent. over the corresponding period of 1941, and of 20 per cent. over the same period of 1940.

NEWFOUNDLAND

Weather Conditions and the Railways

The railways in Newfoundland were affected recently by adverse weather conditions of a serious nature. In addition to heavy snowstorms, from which the railways in parts of Canada also suffered at the end of last year, winds of hurricane velocity were experienced. At Red Rocks, near Port aux Basques, a goods train of twenty-one wagons was blown from the rails; but luckily the crew jumped to safety. On the main line from St. John's to Port aux Basques, a passenger train was isolated for some time amidst snow 24 ft. deep, and food was dropped to it by aeroplane; at one time about 300 passengers were marooned aboard trains.

UNITED STATES

Floods in Maryland and Virginia

Serious flooding of railways along the Shenandoah, Potomac, Rappahannock, and James Rivers, during the last week-end of October, caused a disruption for some days of railway communications in Maryland and Virginia. The Baltimore & Ohio Railroad was the hardest hit. A washout at Hyndman, Pa., first severed the main line of the Cumberland Division, used by all principal trains between Washington and the Mid-West on October 15, and slides and washouts between Piedmont and Bond, 23 and 28 miles respectively west of Cum-

berland, later cut the main line to Cincinnati and St. Louis. On subsequent days further trouble was caused by high water at various points. Diversion of traffic was necessary over adjacent lines of the Pennsylvania and Western Maryland Railroads. Next to be affected was the Richmond, Fredericksburg & Potomac Railroad, which forms the main link between the North Eastern States and the south-west and south via Washington and Richmond. Due to abnormally high water, the bridge over the Potomac, south of Washington, was closed as a precautionary measure between 2 and 7.45 a.m. on October 17; later came washouts in the neighbourhood of Fredericksburg, but the double track was once again in use by the afternoon of October 18. The Southern Railway had its main line flooded by the Rappahannock River, near Remington, Virginia, 56 miles south of Washington, with an interruption of traffic for 14 hr., but fortunately the river bridge suffered only slight damage. The Chesapeake & Ohio and Norfolk & Western Railroads were also affected, the former between Charlottesville and Clifton Forge in Virginia, and the latter between Roanoke, Virginia, and Hagerstown, Maryland. The maximum closing of any of these main lines was about four days.

A Flood-Damaged Line

The Baltimore & Ohio Railroad and one of its subsidiaries—the Buffalo & Susquehanna—have applied to the Interstate Commerce Commission for permission to abandon 44½ miles of the B. & O. line between Sinnemahoning and Burrows, and 9 miles between Wharton and Austin, all in the state of Pennsylvania. The lines in question, which were but little used in normal times, were so severely damaged by floods in July, 1942, that an estimated expenditure of \$658,000 is needed to rehabilitate them, and the B. & O. management considers such expenditure unjustifiable in view of the present demand for rail and steel scrap.

Another Level Crossing Collision

A serious accident occurred on October 28 last in the city of Detroit, when a crowded motorbus of the Detroit Street Railways ran in front of a passenger train of the Grand Trunk Western Railroad at a level crossing at Caniff Avenue. There is a double track of the railway at this point, and the bus driver had stopped to allow a northbound freight train to pass; but despite the fact that the flashing light warning signals were still operating, and that the passenger train driver was sounding his whistle, the bus then attempted to cross in front of the latter. The front end of the bus cleared the southbound track, but the train caught the rear end, cutting the bus in two, and killing 19 people, including several school children.

ARGENTINA

Professional Meetings

The annual meeting of the Argentine & River Plate Centre of the Institute of Transport was held in Buenos Aires on November 7 last. The Chairman, Mr. G. C. Bonner, who presided, stated that, despite the absence of many of the members on war service, and a dearth of lecturers and suitable subjects, interest in the work of the centre had been maintained well during 1942, although one of the four meetings on the programme had had to be cancelled. He outlined the work of the parent institute in London in assisting student members who were prisoners-of-war to continue their studies. Study groups had been formed in different camps under the aegis of the

Camps Educational Faculty, and prisoners with the necessary qualifications had been appointed lecturers. In that way, and by means of textbooks and correspondence courses sent from England, candidates were being coached for the examinations of the institute. The report stated that the number of members on the roll of the Argentine & River Plate Centre was 205, of whom 40 were on war service. One member, Pilot-Officer G. A. Bonner, R.A.F., had been killed on active service. Mr. G. C. Bonner was re-elected Chairman for the ensuing year; Messrs. F. A. Bottomley and E. A. Richards were elected Vice-Chairmen; Mr. R. V. Cable was elected Honorary Treasurer, and Mr. A. C. Wren, Honorary Secretary.

The annual meeting of the River Plate branch of the Institution of Mechanical Engineers was held in Buenos Aires on November 18 last. Mr. O. Steven, Chairman of the branch, who presided, briefly reviewed the work of the session, during which a number of instructive papers had been read and visits paid to places of professional interest. The report of the Educational Sub-Committee, presented by Mr. W. F. Nixon, referred to the work done by the classes in mathematics, physics, and chemistry. Students' prizes for meritorious papers read during the session were awarded to Messrs. A. Eastwood, F. Baillie, D. V. Sandford, R. S. Kellorn, J. Nutter, S. R. Coggan, and J. Goode. Mr. P. J. Dawes was elected Chairman for the ensuing session, and Mr. E. I. Mayne was re-elected Honorary Secretary.

The final meeting of the 1942 session of the Argentine Centre of the Institution of Electrical Engineers was held in Buenos Aires on November 19 last. The Chairman of the centre, Mr. R. G. Parrott, presided. Three short papers were presented by Messrs. A. H. D. Libert, J. Dudley Smith, and the Chairman, dealing respectively with the history and development of electric lighting; the physics and mechanics of discharge lamps; and electric gas-charged lamps. An interesting demonstration of fluorescent illumination was given by Mr. E. Berry by means of equipment lent by the General Electric Co. Ltd.

SPAIN

Extension Projects

The project has been revived for the conversion to broad gauge of the Tudela-Tarazona branch line, and its continuation to La Roda and Calatayud. The present line, 22 km. (13½ miles) long, of metre-gauge, was owned and worked by the Northern Railway of Spain and now forms part of the State system. Another project which is being revived is the proposed extension of the Castilla Railway Company's metre-gauge line from Palanquinos to Leon, to give an alternative through train service between Medina de Rioseco and Leon; the length of the extension would be some 18 km. (11 miles).

Work has commenced on the electrification of the light railway between Onda and Grao de Castellon. The line is 39 km. (24 miles) long, of 0.75 m. (2 ft. 5½ in.) gauge, and the conversion will involve a change in the location of the terminal station at Grao de Castellon. The station at Villareal also will be rebuilt. At the same time the Provincial Government contemplates the establishment of a trolleybus route serving Castellon and La Plana. At Vigo, a commission of Government engineers of the State Construction Department has visited the railway terminus with a view to the construction of a new station, on a site more suitable for the greatly-increased volume of

traffic, and to the improvement of access to and from the port.

Articulated Carriages

A trial was made recently, at the Atocha Station, Madrid, of a train of light articulated vehicles, constructed to the patent system developed by Lt.-Colonel Alejandro Goicoichea. The General Manager and engineering staff of the State Railways and a number of military engineers, were present. The invention was described briefly in THE RAILWAY GAZETTE of January 16, 1942, at page 105, but no detailed description is at present available; the main features of the vehicles, however, are the free wheels, mounted in independent bearings, with cardan-shaft coupling, allowing of a much lower centre of gravity and lighter construction, with higher speeds and less wear on curves. The dead weight a passenger is said to be no more than 90 kilogrammes (198 lb.).

SWITZERLAND

Federal Railways Results

According to a report issued by the Swiss Federal Railways, quoted by the official German news agency, the number of passengers carried by the Federal Railways in December, 1942, was 14,370,000, or 1,240,000 more than in December, 1941; and passenger receipts amounted to fr. 15,130,000, or fr. 450,000 more than for the previous December. Goods traffic increased to 2,059,000 tons; and goods receipts rose, by fr. 1,420,000, to fr. 27,680,000. Operating receipts for the month amounted to fr. 46,271,000; for the whole year 1942 they rose, by fr. 11,970,000, to fr. 466,970,000. Operating expenses, however, show a still greater increase: the December figure was fr. 26,970,000, an increase of fr. 4,643,000 over the corresponding month of 1941. For the whole year, working expenses totalled fr. 281,140,000, or fr. 29,590,000 more than in 1941. This was due largely to the rising cost of materials and to higher wages and salaries. The operational surplus for December, 1942, is fr. 19,300,000, or fr. 2,900,000 less than for the same month of the previous year. For the whole year 1942 the surplus fell, by fr. 17,620,000, to fr. 185,830,000. This amount will not be absorbed entirely by interest and writings-off, so that the profit-and-loss account closes with a small profit.

DENMARK

State Railways Results

The annual report of the Danish State Railways for the year ended May 31, 1942, which was issued recently, shows that there was a considerable increase in traffic over the preceding year: comparative figures are as follows:—

	1940-41	1941-42
Total revenue (kroner)	187,000,000	232,900,000
Passenger revenue (kroner)	75,800,000	101,500,000
Goods revenue (kroner)	96,900,000	114,700,000
Passengers carried (number)	44,500,000	54,300,000
Goods carried (tons)	7,700,000	8,900,000
Total expenditure (kroner)	159,000,000	81,400,000

The increase in passenger traffic was due mainly to the introduction of a 20-min.-interval service on the electrified lines in the Copenhagen district as from May 26, 1941, which operated during the financial year. The increase in goods traffic was due to the amount of peat, lignite, stone, bricks, grain, and timber conveyed; there were decreases, however, in meat, dairy-produce, and general-foodstuffs traffic. The number of bicycles carried by train increased from 970,000 in 1940-41 to 1,320,000 in 1941-42. (In the last pre-war year the number was

340,000.) The increased expenditure was caused mainly by the rise in wages and in the cost of fuel. There was a persistent shortage of goods wagons, in spite of the return of wagons previously "borrowed" by the Germans. The number of staff increased from 20,812 to 22,034. The route-mileage in operation at the end of the financial year 1941-42 was 2,391 km. (1,484 miles), of which 600 km. (373 miles) represented double, and 17 km. (11 miles) quadruple, track.

CEYLON

Locomotive Repairs

Proposals for prompt and effective action to conserve and maintain the locomotive power of the railway at a pitch of efficiency, which would enable it to cope with any likely demands, were considered recently. The Transportation Superintendent of the railway stated in a memorandum that if the present standard of efficiency was to be maintained the programme of locomotive repairs in the sheds should be expedited.

A report on the conditions of the engines in service urged the need for strengthening the locomotive power of the railway, which had not been up to the usual standard for years, due to the pre-war decline of railway traffic. Orders for new engines, which had been placed with manufacturers in the year the war broke out could not be executed and there had been some difficulty in obtaining spare parts.

Several of the engines were said to have nearly reached the end of their scheduled period of usefulness at the time the railway was suddenly called on to meet increased transport demands. Under these conditions it was considered no small credit to the mechanical and transport sections of the railway that they had been able to cope with the traffic.

Programmes for the special inspection and repair of all engines were drawn up, and it was suggested that the repair work should be expedited by employing additional staff for the purpose. It is hoped that by expediting the maintenance repairs of the locomotives, failures will be practically eliminated.

More Accidents to Railwaymen

A gradual increase in the number of cases of injuries sustained by railway employees while on duty has been recorded since the Workmen's Compensation Act came into operation. In 1941, there was an increase over the previous year's figures of about 175 such cases. The causes of the increase were considered at a conference of Railway Divisional Transportation Superintendents, and the view prevailed that, although the accidents could not be attributed wholly to carelessness, there was no doubt that the increase was due largely to the employees not exercising sufficient care in the performance of their duties. The blackout conditions in some of the railway yards and stations and the inadequacy of the staff, which at times led men of lower grades to carry out the duties of those in the higher grades, also had been contributory factors to the increase.

Falls from moving railway vehicles or engines constituted a high percentage of the accidents. The smallest number was the result of men being knocked down or run-over by trains. The increase has led to a corresponding rise in the total amount paid to the staff as compensation for injuries. In future, a closer scrutiny is to be observed as to the payment of compensation for these accidents with the object of eliminating the payment of compensation to persons injured as a result of their own carelessness.

Apparatus for Detecting Wheel-seat Flaws in Railway Axles

Invisible cracks are discovered by a method developed by the L.M.S.R. to obviate the removal of wheels from axles

By F. C. Johansen, M.Sc., M.I.Mech.E.

IT is the almost universal practice for the wheels of railway vehicles to be press-fitted to the axles. This mode of assembly, highly satisfactory in most respects, has the serious drawback of reducing the fatigue strength of the axle inside the fit; and when, as is often the case, the wheel seat is of the same diameter as the adjoining part of the axle, a fatigue flaw due to excessive "rotating-bending" stresses in this region tends to occur circumferentially, just within the inner end of the fit rather than outside the fit in the body of the axle. Although

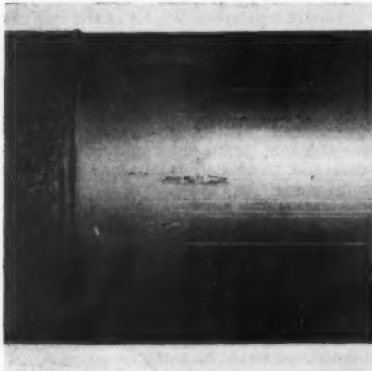


Fig. 1—Scored wheel seat with circumferential crack

such a flaw is progressive, and probably takes a long time to develop to the stage at which a sudden fracture of the axle occurs in service, it is most troublesome to detect in the early stages of its growth because the external trace of the crack is concealed by the wheel boss from visual inspection. Several excellent methods are available for detecting the crack should it be exposed by pressing the wheels off their seats, but this expedient—even if the assembly be only partially dismantled—entails a degree of delay and labour not easy to justify in view of the relatively minute proportion of axles that fail in service by wheel-seat fatigue. Moreover, the initial movement of the pressing-off operation often causes the mating surfaces of the wheel-bore and its seat to be so deeply scored, in the manner illustrated by the right-hand side of Fig. 1, as to prohibit re-assembly; and even if this sort of damage does not occur, the grip of the re-mounted wheel is often adversely affected.

These considerations led the Research Department of the London Midland & Scottish Railway Company to undertake the task of devising and developing a method of detecting wheel-seat flaws in railway axles without removing wheels from axles or even wheel and axle assemblies from the coach. The testing equipment had to be simple enough to be accurately used by the ordinary inspection staff after a little instruction and practice, and the procedure was required to be so straightforward as to enable

examination for wheel-seat cracks to be included in the routine carriage inspections with the ultimate object of being able to test every axle at intervals such that an incipient flaw so small as to escape detection at one examination might not grow to critical size before being detected at the next. In this connection examples of service failures show that, no doubt on account of the generous factors of safety used by designers of rolling-stock, some 75 per cent. or more of the cross section is usually severed by the flaw before the axle actually collapses. One further desirable feature of the apparatus was that it should inspire confidence in the inspectors who were to use it by embodying no instruments nor principles of measurement with which they were not already familiar in workshop practice.

To meet these requirements the equipment illustrated in Figs. 2 to 4 was con-

structed. The essential item consists of a rigid steel ring, of square cross section, split diametrically to allow it to be clamped to the axle under test. Contact with the axle occurs at three spherical seatings, of which (see Fig. 2) two are fixed to the inside of the ring and the third is adjustable and is screwed to grip the axle firmly after the two halves of the ring have been bolted together. Three other screws, shown with screw-driver slots in Fig. 2, pass axially through the ring and serve to locate it parallel to, and at a convenient distance of about half-an-inch from, the inner face of the wheel boss. Their use is only temporary, and once the complete ring is in place they are withdrawn, clear of the boss, leaving the ring secured to the axle

by the three ball seats only. Rigidly attached to one half of the ring are three stiff radial arms of equal length, spaced 60° apart, each carrying at its outer end an ordinary dial gauge sensitive to one ten-thousandth of an inch. The wing-bolt clamps holding the gauges are adjustable so that the plungers of the gauges can be set to bear with their ends against the plane surface of the flange side of the tyre, as shown in Fig. 3. To prevent inaccuracy due to the rough-machined face of the tyre, it is well to let the gauge plungers actually bear on to small flat discs of smooth tinplate which are stuck with plasticine to the face of the tyre.

It will be apparent that the system described comprises, essentially, two nominally rigid reference planes, fixed normal to the axle and set one on each side of a possible flaw situated near the inner end of the wheel seat. If such a flaw does exist, and is of the usual, segmental or luniform, shape, the strength of the axle will be less in the direction passing through the centre of the axle and the centroid of the flaw than in the direction at right angles to it. If, therefore, the wheel-axle assembly be rotated under a constant vertical bending moment, the vertical deflection of the short length of axle including the flaw

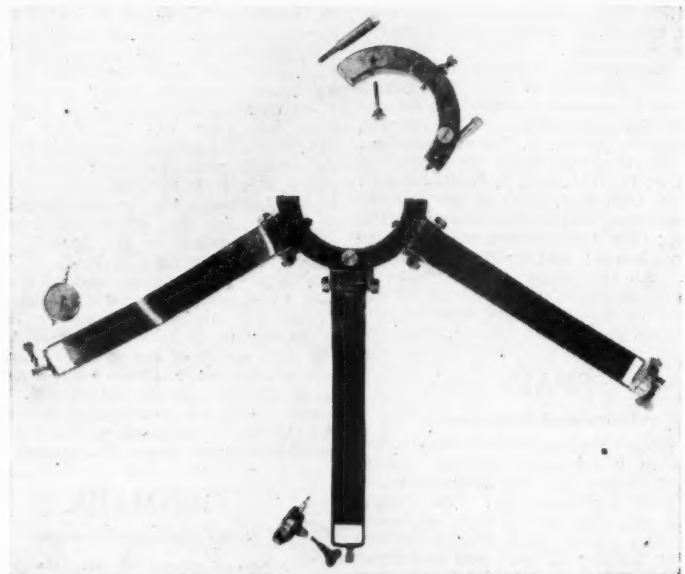


Fig. 2—Axle fitting for crack detection

will be greatest when the flaw is about vertically above or below the longitudinal centre line of the axle, and least when the flaw is horizontally to either side of that axis. The dial gauges serve to indicate the deflection of the axle across the critical section at the inner end of the wheel seat, and the requisite bending effort is achieved by rotating the wheel-axle assembly on rollers; the ends of the axle meanwhile carry their normal static load, amounting to about 3 tons, applied to each journal through the bearings, axleboxes, and springs.

The procedure adopted in testing an axle will now be clear. The coach is stationed with one pair of wheels on the rollers and the assembly of ring and radial arms is mounted on the axle in a

position such that the axle is rotated under a constant vertical bending moment, the vertical deflection of the short length of axle including the flaw

random angular position. The wheels and axle, carrying the arms and gauges with them, are set in rotation and, after a preliminary revolution or two to achieve steady conditions free from extraneous constraints, the three dial gauges are successively observed, first when each arm is vertically downwards, secondly, half a revolution later, as each arm is at the top of its travel. The gauges are of the usual type in which the dial readings increase as the plunger moves in towards the gauge; and because the effect of the loads upon the journals is to bend the axle upwards in the middle, causing the wheels to spread farther apart at the top than at the bottom, it follows that each dial gauge shows a maximum reading near the bottom, and a minimum reading near the top, of its travel. The range of reading, that is, the difference between maximum and minimum, is a

Should it happen that the wheel seat contains an annular flaw, of about uniform radial width and extending right around the circumference, the observed gauge ranges will again tend to be approximately equal, as in the case of a sound axle. The deflection ranges will, however, be substantially greater than those for a second axle of the same size. The existence of such a flaw can therefore be inferred from a knowledge of the average readings previously experienced, and can be confirmed or otherwise by comparison with the ranges measured for the other wheel-seat of the same axle, which is most unlikely to contain a flaw of the same shape and size.

For the less unusual, lune-shaped flaw, the first random setting of the radial arms leads to gauge ranges, all three of which are generally greater than the average for sound axles, and are, markedly

tion of the suspected flaw but pointing in the diametrically opposite direction. This third set of readings should not be necessary if the defect is a large flaw because, for this, the disparities among the gauge ranges will often be so much greater than the background differences usually observed with sound axles as to be unmistakable. However, the discovery of a flaw is such a rare event that the slight additional trouble needed to make quite certain about it is negligible.

It will be appreciated that the deduction of the position of a flaw from the dial readings is merely incidental to the application of the "inference principle" in checking the observations to confirm the existence of a flaw and to discriminate between a flaw and merely secondary effects. A knowledge of its situation is of quite trifling value compared with the discovery that a concealed flaw is actu-

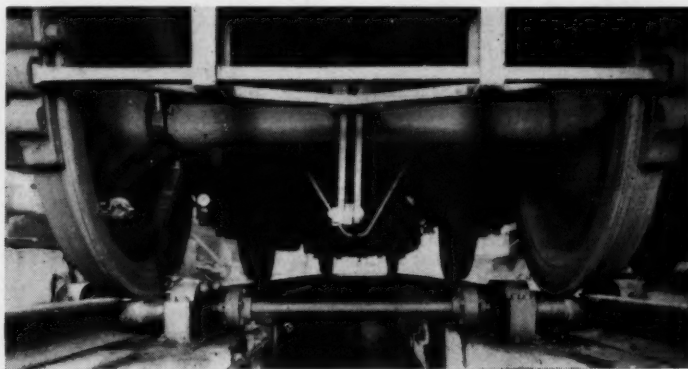
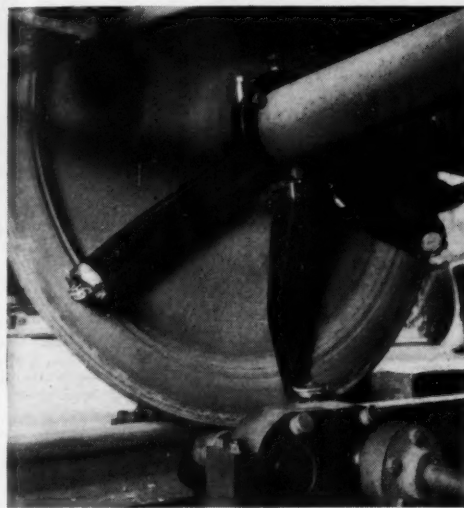


Fig. 3 (left)—Fitting for crack detection in position on carriage axle

Fig. 4 (above)—Wheel-rotating gear used in conjunction with crack-detection fitting

measure of the bending deflection of a short length of the axle, considerably magnified as a result of the length of the radial arms. If the axle is sound and homogeneous, the range observed for each dial gauge will be closely the same. Slight background differences, resembling the indications of a small flaw, may occur as the result, for example, of imperfections in the grip of the press-fit or of variations in the stiffness of the wheel or the arms, or changes of loading due to imperfect circularity of the wheel flanges, but experience has shown that such errors seldom exceed 10 per cent. of the range which, for a sound wheel-axle assembly of a standard railway coach is of the order of 100 gauge divisions, that is, 0.01 in. Moreover, these slight experimental differences seldom repeat consistently for a second and third revolution of the assembly. Even more important, they are not consistently repeated if the angular setting of the radial arms on the axle is changed. A check is therefore made by re-positioning the arms and observing a further set of gauge ranges. If these are again small, and are inconsistent with the first set as to the position of a defect in the assembly, it may be concluded that no important defect is present. It is always advisable, however, to re-position the arms once and take a confirmatory set of readings, if only to ensure that no gross fault in the setting, adjustment, or operation of the apparatus has passed unnoticed.

different from one another; both these general characteristics are consistently confirmed by one or more repeat observations during successive revolutions of the axle. In the case of a small flaw, of course, the ranges are not greatly different from the average, and it is always the disparity among the three ranges themselves which furnishes the most reliable indication of a flaw. From this disparity it is inferred that a flaw, if present, will be situated so that the direction of its centroid lies between the two gauges showing the greatest ranges, and proportionately nearer to the dial showing the greatest range of the three than to that showing the second greatest range. The arms are therefore repositioned so that one of them lies along the direction of the suspected flaw, and the observations repeated. If the ranges, while again abnormally large, are still haphazard as to direction, the inference is that the wheel-axle assembly is defective in some way that is not fixed directionally in the assembly, as occurs with a flaw, but which is none the less worth discovery and rectifying. The repeat observations, however, may be consistent with those for the first setting of the arms. Thus, the dial which was set along the direction of the presumed flaw now shows the greatest range while the smaller ranges of the two other dials are about equal. A third check, based on the readings of the second test, may be made with one arm again along the direc-

ally present. It will be realised, also, that the average values of the gauge indications for sound axles may vary somewhat according to the detail design of the assembly, the loads on the journals, and the dimensions of the axle. The apparatus shown in Fig. 2 was specifically designed for use upon axles 5½ in. in dia. but can be used for diameters up to 5½ in. by substituting alternative seating studs. The latter must be short and stiff, however, to ensure a rigid grip of the ring upon the axle, and for axles in the region of 6 in. dia. a larger ring, to which the existing arms can be attached, should be provided. Because of wartime restrictions in the use of aluminium the present apparatus is made entirely of steel; the ring is solid and the arms fabricated of ½ in. plate. Its total weight is 28 lb., of which the half ring with arms attached accounts for 20 lb.

The wheel-rotating gear, of which the detailed design and construction were carried out by the Chief Mechanical Engineer's staff at the Derby Carriage & Wagon Works, is illustrated by Figs. 3 and 4. The rails over an inspection pit are cut away for about a foot, and in each gap is mounted on a massive concrete foundation a pair of cylindrical rollers. All four rollers are carried in roller bearings at both ends. One roller under each wheel, connected to its opposite number by a common shaft, is driven by a 1 h.p. electric motor through a 60 to 1 reduction gear. By means of



Fig. 5—Crack detected and located by new test method

a power capstan, the vehicle is pulled until the wheels of the axle to be tested rest stably upon the rollers, which are made of hardened tool-steel to resist indentation. The roller diameter is 3 in. and the coach wheels make about 1 r.p.m.

Trials of the apparatus now in regular use at the Derby Works of the L.M.S.R. were started in October, 1941, since when the single set of equipment has been fully occupied. During this period the 1,752

somewhat irregular, line across the axle. The crack lies about $\frac{1}{4}$ in. within the wheel-seat, the machined surface of which, slightly scored by the pressing-off operation, extends over the right-hand half of the illustration. Just to the left of the crack is the ring of greasy dirt which collects at the end of the fit during service, and further to the left extends the rough body of the axle between the wheels. Fig. 5 is a similar photograph of the second flaw to be found. The trace of this has been brought into prominence

situation of the centre of the flaw as deduced during the deflection test.

In order to expose the flaws completely, the three suspected axles were broken open by bending them in a hydraulic press. The fracture faces, shown in Figs. 6, 7, and 8 are in each case characteristic of fatigue under rotating bending stresses. The axles shown in Figs. 6 and 7 had been in service between 7 and 8 years, but the other, Fig. 8, was over 18 years old. In two instances, Figs. 6 and 7, the flawed

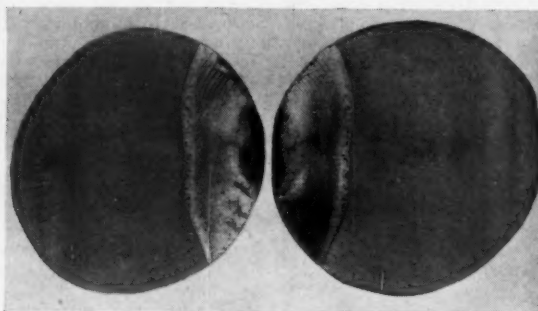


Fig. 6—Flawed axle 7 to 8 years old, broken to show the depth of the crack

by passing a strong magnetic flux along the axle and then spraying the surface with a suspension of iron powder in paraffin. The white arrow was chalked on the axle when it was still under the coach with its wheels on, and marks the

area extends over about 23½ per cent. of the cross section, whilst in the other it covers only 18½ per cent. It is to be regarded as very satisfactory that flaws of this relatively small size should have been discovered with a generous margin of gauge indication over and above the normal background effects. The results seem to warrant the expectation that lune-shaped flaws covering no more than 10 to 15 per cent. of the axle section will be detectable, thus appreciably reducing the risk of a flaw's growing in the period between successive tests from an undetectable size to the critical size at which any excessive shock could cause complete fracture.

The particular form taken by the present apparatus, with its associated equipment of rollers, inspection-pits and capstan, utilises the weight of the coach for deflecting the axle and, in certain circumstances, may be the most convenient arrangement. It is at some disadvantage, however, on account of the awkward situation of the operator underneath the coach, and because of the time occupied and the obstruction caused by manoeuvring the coach into its position. Consequently, now that the reliability of the

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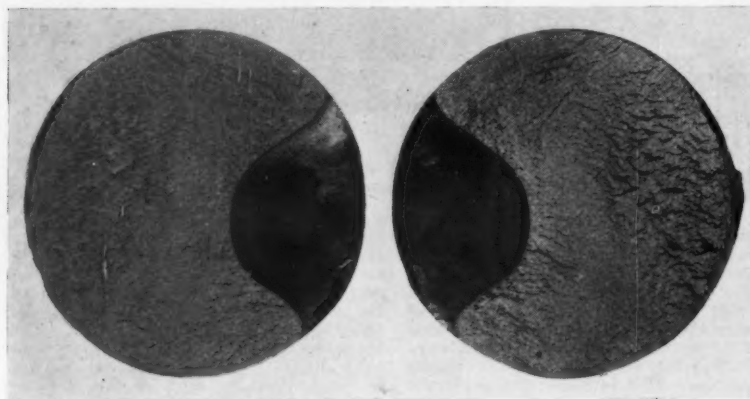


Fig. 7—Flaw in another axle 7 to 8 years old

wheel seats of 219 eight-wheel coaches have been tested, and last March, after more than 500 tests had been completed with negative results, clear indications of a flaw were obtained. This is believed to be the first occasion on which a concealed fatigue flaw in a railway-axle wheel-seat has been discovered by instrumental means. Since then, two more flaws have been found; and it may be emphasised that in none but the three cases where flaws have occurred has the apparatus given definite positive indications. In these three special cases, out of a total of 1,752 tests, the disparities among the dial gauge readings were about 40 divisions (that is 0.004 in.), which may be compared with an average disparity of less than 10 divisions for most of the sound axles tested. The flaws were disclosed by pressing off the wheels and examining the wheel-seat thus exposed. Fig. 1, which is typical, shows the external trace of the flaw as a dark,

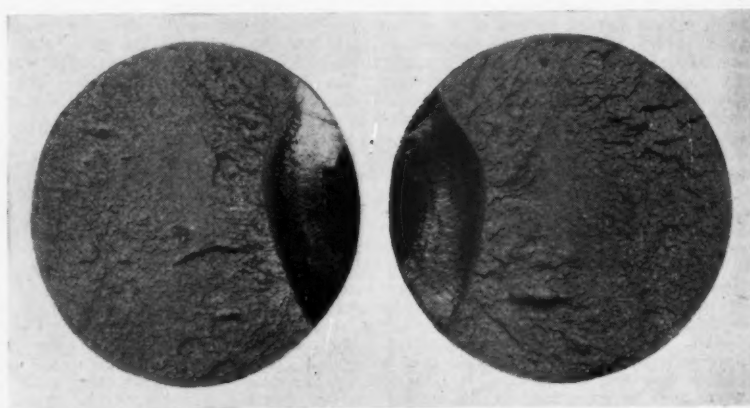


Fig. 8—Flaw in an axle which had been 18 years in service

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RAILWAY NEWS SECTION

PERSONAL

RETIREMENT OF L.M.S.R.
VICE-PRESIDENT

The directors of the London Midland & Scottish Railway Company announce the retirement of Sir Ernest J. H. Lemon, Vice-President (Operating & Commercial).

Thus the Executive Committee of the L.M.S.R. is now:—

PRESIDENT: Sir William Wood.

VICE-PRESIDENTS: Sir Harold Hartley; Ashton Davies.

SECRETARY: G. R. Smith.

CHIEF LEGAL ADVISER & SOLICITOR: A. Eddy.

CHIEF EXECUTIVE OFFICER FOR NEW WORKS & PARLIAMENTARY BUSINESS: H. V. Mosley.

CHIEF OFFICER FOR LABOUR & ESTABLISHMENT: G. L. Darbyshire.

L.M.S.R. DIRECTORS

The board of the London Midland & Scottish Railway Company has appointed Lt.-Colonel Francis Maurice Grosvenor Glyn, of 67, Lombard Street, London, E.C.3, a Director of the company, in the place of the late General the Hon. Sir Herbert Lawrence.

Mr. Alexander Murray Stephen also has been appointed a Director of the company. Mr. Stephen, who is the Chairman of Alexander Stephen & Sons Ltd., Shipbuilders, of Linthouse, has been a member of the L.M.S.R. Scottish Committee since 1938.

Mr. Robert Arthur Riddles, Deputy Director-General, Royal Engineer Equipment, Ministry of Supply, was received by the King on February 16 and was invested with the Insignia of a Commander of the Most Excellent Order of the British Empire.

Mr. James Black, Chief of Technical Staff, North British Locomotive Co. Ltd., was received by the King on February 9, and was invested with the Insignia of a Member of the Most Excellent Order of the British Empire.

Lt.-Colonel the Right Hon. John Colville, T.D., J.P., Governor Designate of Bombay, has been nominated and appointed by the King to be an Additional Knight Grand Commander of the most Eminent Order of the Indian Empire. The appointment is to be dated February 4.

We regret to record the death on February 6, in his 78th year, of Mr. James Vallance, who was appointed Divisional Accountant, Glasgow, L.M.S.R., on its formation in 1923; he retired in the next year, after 47 years' service with the Glasgow & South Western and London Midland & Scottish Railways.

Mr. A. H. Railing, Vice-Chairman, General Electric Co. Ltd., has been appointed Chairman & Joint Managing Director of the company. Mr. L. C. Gamage, a Director, and Secretary, has been appointed Vice-Chairman & Joint Managing Director. Mr. T. Dyke and Mr. N. A. Enticknap have been appointed Joint Secretaries (temporary).

Sir Ernest J. H. Lemon, O.B.E., whose retirement from the London Midland & Scottish Railway Company is announced above, has been Vice-President (Operating & Commercial) for the last eleven years. Sir Ernest was educated at Heriot Watt College, Edinburgh, and completed his technical training as a mechanical engineer with the North British Locomotive Co. Ltd.; Brown Brothers, Hydraulic Engineers, Edinburgh; the Highland Railway Company; and Hurst, Nelson & Co. Ltd. In 1911 he joined the staff of the Midland Railway Company as Chief Wagon Inspector, and became Works Manager of

locomotives. As Vice-President he applied the principles successfully adopted in the shops to achieve greater economy in the turnround of locomotives, in budgeting control of expenditure, and in the reorganisation of the various revenue-earning departments into one commercial department with a definite goal for each district and for the line as a whole. In June, 1938, at the urgent request of the Government, his services were lent to the Air Ministry for a period of a year, extended later for another year, and in 1942, again at the request of the Government, were transferred to the Ministry of Production for special wartime work on aircraft problems. On each of these special duties he rendered marked services to the Government, and a Knighthood was conferred on him in 1941. Sir Ernest is President of the Institution of Production Engineers.



Sir Ernest J. H. Lemon

Vice-President (Operating & Commercial), L.M.S.R., 1932-43.

the Carriage & Wagon Department in 1917; on the formation of the L.M.S.R. in 1923 he was made the Divisional Carriage & Wagon Superintendent. In 1925 he was appointed Divisional Superintendent (Newton Heath & Earlestown), and in 1927 he became Carriage & Wagon Superintendent for the L.M.S.R. In 1931 he was made the first Chief Mechanical Engineer of the company, covering locomotives and carriages & wagons, and in 1932 he was appointed Vice-President (Operating & Commercial). His work on the various mechanical sides of the L.M.S.R. was of marked distinction, showing great creative energy in the reorganisation of the company's shops, in the production of new rolling stock to make good the effects of the war of 1914-19, and in his pioneer work in the adoption of the system of progressive construction and repair of carriages and wagons, and then of

Mr. G. J. A. Lindenberg, Assistant Chief Mechanical Engineer, South African Railways & Harbours, who, as recorded in our February 12 issue, has been appointed Chief Stores Superintendent, entered railway service at Durban, as a pupil mechanical engineer, in 1924, after graduating as B.A. at Rhodes University, and as B.Sc. (Eng.) at the University of the Witwatersrand. After the completion of his pupilage, he was appointed Assistant Engineer (Mechanical) in the Transportation Department, at Durban, and, three years later, was transferred to Cape Town in the same capacity. He returned to Durban in 1929 as Assistant Mechanical Engineer, and later held the position of Assistant Engineer (Mechanical) Mafeking, before going to Pretoria as Locomotive Superintendent. Mr. Lindenberg later became Acting Superintendent and afterwards Manager, South African Airways; subsequently he held the position of Mechanical Engineer & Chief Superintendent, Motive Power, Durban, before becoming Assistant Chief Mechanical Engineer, Pretoria. During his tenure of the latter office, he was released for active service in East Africa, and was Assistant Director, Transport (Mechanical), on the staff of the Deputy-Director of Supplies & Transport, with the rank of Lt.-Colonel. Mr. Lindenberg is a member of the Railways & Harbours Conciliation Board, and of the Superannuation Fund Management Committee; he has served also on various other committees, including the departmental committee appointed to inquire into the working of the South African Railways & Harbours Sick Fund, of which he was Chairman.

We regret to record the death on February 15, at the age of 83, of Lord Gainford of Headlam, who was a Director of Pease & Partners Limited, and Deputy-Chairman of the Durham Coal Owners' Association.

The London Gazette of February 12 announces that on February 9, at Buckingham Palace, the King conferred the honour of Knighthood upon the undermentioned

gentlemen:—Mr. Ralph Ismay Metcalfe; Mr. William Murray Morrison; Mr. George Horatio Nelson; and Mr. Arthur Benedict Winder. His Majesty's approval of these Knighthoods was signified on January 1.

Mr. Michael Mackin has been appointed General Secretary of the new Irish Railwaymen's Union, reference to which is made at page 202.

We regret to record the death, at the age of 75, of Mr. J. T. Naisby, who retired from the position of Passenger Manager, North-Eastern Area, L.N.E.R., in 1932.

Mr. Arthur Johnson, District Locomotive Superintendent, Burma Railways, has been awarded the George Medal for bravery and distinguished service in the evacuation from Burma.

Mr. W. Shelton Smith, Deputy-Director of Public Relations, has been appointed Director of Public Relations, Ministry of Food. Before the outbreak of war, Mr. Shelton Smith was a member of the public relations staff of the L.P.T.B.

The late Dr. William Lombard Murphy, a Director of the Great Southern Railways Company (Eire), whose death was recorded in our January 15 issue, left £150,000 in Eire, on which estate duty amounting to £58,525 has been paid.

We regret to record the death on February 8, in his 74th year, of Mr. George Saxon-Jones, who had been Agent of the Canadian Pacific Railway in the City area of London until his retirement in 1936. He joined the C.P.R. in 1886 as an assistant freight clerk; he became a freight clerk in 1891, and Freight Agent in 1907. He was appointed London City Agent, C.P.R., in 1910.



The late Mr. C. S. Harrison

Secretary, Executive Committee, L.M.S.R., 1941-43

Mr. C. S. Harrison, Secretary to the Executive Committee, L.M.S.R., whose death was recorded in our February 12 issue, entered the service of the former London & North Western Railway at Broad Street in 1901, and, two years later, was transferred to the office of the General Manager's Staff Assistant at Euston. In 1909 he was appointed to the General Manager's personal staff, on which he remained until the amalgamation; during this period he served under no fewer than seven general managers. On the formation of the L.M.S.R., Mr. Harrison was appointed to the staff of Mr. Glynne Roberts, Secretary to the company and Assistant to the Presi-

dent, under whom he was responsible for the secretarial work of the Executive Committee. In 1938 he succeeded Mr. Harry Davis as Assistant (Central Offices), Euston; and in June, 1941, he was appointed Secretary to the Executive Committee.

Mr. W. J. Dalby has been appointed Traffic Manager of Trans-Canada Air Lines, with headquarters at Winnipeg. Mr. Dalby has been connected with air transport in the Dominion for many years, and in 1938 he became Traffic Manager, Vancouver, Trans-Canada Air Lines. In 1941 he was appointed Western Traffic Manager, and was transferred to Winnipeg; and in September of that year he was made Acting Traffic Manager of the system.

SOUTH AFRICAN RAILWAYS & HARBOURS

Mr. G. H. Dawson, System Manager, Kimberley, Acting Member of the South African Railways & Harbours Service Commission, has retired.

Mr. A. F. Bruyns-Haylett, Chief Works & Estates Officer, has been appointed System Manager, Windhoek.

Mr. W. M. Clark, Inspecting Engineer (New Works), Chief Civil Engineer's Office, Johannesburg, has been appointed Chief Works & Estates Officer, General Manager's Office, Johannesburg. Mr. Clark, who at present is serving with the Armed Forces, has been awarded the O.B.E. for distinguished services on active service.

Mr. J. R. Whitehead, Assistant Port Goods Superintendent, Durban, has been appointed Port Goods Superintendent there.

Mr. L. A. Nell has retired from the position of Port Goods Superintendent, Cape Town.

Mr. P. Creamer has retired from the position of Port Goods Superintendent, East London.

Mr. S. E. Witt, Assistant to Mechanical Engineer, Durban, has been appointed Locomotive Superintendent, Windhoek.



American-built 2-8-0 "austerity" locomotive, details of which were given in our December 11 issue

Above is shown one of the locomotives which has been adjusted and tested in Scotland. Standing by the engine, or on the footplate, are, from left to right, Mr. J. C. Spark, Works Manager, Cowlaers, L.N.E.R.; Mr. L. Reeves, Mechanical Engineer, Scotland, L.N.E.R.; Fireman John Aldcroft; Driver James Sutherland; Chargehand J. Barneston; and Mr. R. Allen, Chief Erecting Shop Foreman, Cowlaers.—From the *L.N.E.R. Magazine*

TRANSPORT SERVICES AND THE WAR—178

American Speed Limit in Britain

A speed limit of 35 m.p.h. is enforced on all American Army vehicles in Great Britain. To promote road safety, U.S.A. drivers are required to pay for any repairs their carelessness makes necessary.

London Transport Vehicle Liveries

London Transport buses are changing colour as overhauled at the rate of 40 a week. About 300 painted in Indian-red are now in daily service. Reference to the proposed gradual wartime change from the familiar bright red, which has been standard for many years, was made at page 407 of our issue of October 23, 1942.

Producer-Gas Plant Depreciation

In recognition of the fact that the life of a producer-gas apparatus is likely to be shorter than that of other forms of road transport equipment, we understand that the Board of Inland Revenue has agreed to a depreciation allowance of 50 per cent. per annum on the written-down value of such units. This allowance covers normal wear and tear, and the provisional allowance for exceptional depreciation. Any balance of exceptional depreciation will then be given in the year in which the equipment is finally sold or scrapped.

Milk Haulage

We are advised by Associated British Milk Carriers Limited that, as soon as a milk haulier is informed that the work upon which he is engaged is to be included in a rationalisation scheme, he is recommended to establish contact with the haulage representative on the appropriate Regional Advisory Committee. This point was stressed at a meeting of the executive committee of the National Conference of Milk Carriers on February 3. It was pointed out that the haulage representatives had been appointed to look after the interests of the milk-carrying industry, and that they would be handicapped in their work if full information was not given to them at the earliest moment. The name and address of a haulier's representative can be obtained from the area secretary of his association, from the Regional Transport Commissioner's office, or from the regional office of the Milk Marketing Board.

Stations and Branches Opened and Closed

The passenger train services on the Lostwithiel and Fowey branch of the G.W.R. was again re-instituted on October 5. Hassop Station on the Derby-Manchester main line of the L.M.S.R. (Midland section) has been closed for passenger traffic as from August 17.

Orton * Waterville Station, on the L.N.W.R. section of the L.M.S.R., was closed for passenger traffic as from October 5.

Overtown Station, on the Caledonian section of the L.M.S.R., was closed for passenger traffic as from October 5.

Gorleston North Station, L.N.E.R. & L.M.S.R. Joint, was closed for both goods and passenger traffic as from October 5.

Rigg Station, L.M.S.R., has been closed for passenger traffic as from November 1.

Tarbolton Station, L.M.S.R., was closed for passenger train traffic from January 4.

Moore Station, on the L.M.S.R., between Warrington (Bank Quay) and Preston

Brook stations, was closed on February 1. Parcels delivery arrangements have been transferred to Daresbury Station.

Salwick Station, L.M.S.R., has been re-opened for passenger traffic on weekdays as from November 2.

From November 2, all L.N.E.R. passenger trains were withdrawn between Stratford (Low Level) and Victoria Park, on the Great Eastern Section. This severed the connection with the L.M.S.R. (North London) line at Victoria Park.

On the same date (November 2) the service between Stratford (Low Level) and North Woolwich was considerably reduced.

On February 1, a new L.N.E.R. halt, named Newchurch, about three-quarters of a mile south of Culcheth, on the line serving the Wigan and St. Helens branches, was opened for passenger and parcels traffic. St. Botolph's Station, Colchester, L.N.E.R., was re-opened for traffic as from September 28.

Weaste Station, L.M.S.R., was closed on October 19.

Blackout Aid to Travel

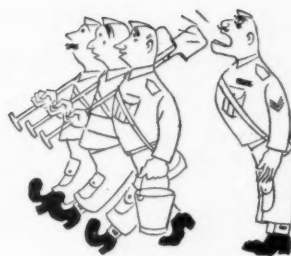
At split stopping-places in London, where buses on several routes pull up at points closely adjacent to one another, it is often difficult for would-be passengers to determine the right post at which to stand. Especially is this the case on dark nights, and the impulse to flash a torch upwards, to read the route numbers at the top of the post is sometimes hard to resist. To overcome the difficulty, the route numbers are now being repeated on narrow boards fixed to the posts at eye level. These are now being installed by London Transport at all important split stopping-places in the Central area.

Newcastle Local Transport

From the details of Newcastle suburban travel modifications published at page 73 of our January 15 issue, it may be recalled that, as from January 17, buses owned by the Tynemouth & District Transport Co. Ltd., operating between Whitley Bay and Gateshead were to be allowed to pick up passengers for setting down between Church Bank Top, Wallsend, and the north end of the Tyne Bridge; the fares were to be the same as those charged by the Newcastle Corporation Transport Department and the Tyne-side Tramways & Tramroads Company. As with other stages of the scheme, the arrangement was postponed as a result of the representations of the Newcastle Corporation to the Minister of War Transport. Once again, the Minister upheld the plan as sanctioned by the Northern Region Transport Commissioner (Sir John Maxwell), and the arrangements eventually came into force on Sunday, January 31.

L.M.S.R. Schools for Women

Some 150 women have been trained to drive road motor vehicles for the L.M.S.R. They pilot 3-ton lorries, mechanical horses, and platform tractors, as well as private cars. Before being passed for the road, every woman has to attend one of the four L.M.S.R. schools for drivers. Highway and Safety First rules and road signs have to be memorised. Road problems, set out on a model of a highway with traffic lights, crossings, corners, and toy vehicles, must be solved satisfactorily; instructional films have to be studied. Lessons on how motor engines work and how they should be ser-



ORDERS IS ORDERS

Restricted bus services are not the whim of the bus companies, they are government orders. Rubber and fuel must be saved, so fewer miles must be run by the buses. You can help by walking short distances and travelling only when you must. You can promise yourself a real orgy of bus travel — when the war is over.

In the interests of economy of newspaper this advertisement is issued jointly by—
YORKSHIRE WOOLLEN DISTRICT TRANSPORT CO. LTD.,
MEKOROUGH & SWINTON TRACTION CO. LTD.,
EAST YORKSHIRE MOTOR SERVICES LTD.,
WEST RIDING AUTOMOBILE CO. LTD.,
COUNTY MOTORS (LEFTON) LTD.,
YORKSHIRE TRACTION CO. LTD.,
HEBBLE MOTOR SERVICES LTD.



Newspaper advertisement sponsored by
the British Omnibus Companies Public
Relations Committee

viced are also given, with demonstrations on sectionised engines and chassis. The women, after this theoretical training, are given schooling, with actual vehicles, on vacant ground adjoining the schoolrooms. They then take to the highway, under the guidance of a skilled driver, where they gain actual road experience and learn the district they will have to work. The average period of training occupies 21 days.

Ban on Transport of Flowers

As a consequence of the Government Order prohibiting the acceptance of flowers or plants for conveyance by rail, it became necessary at the end of last year to prohibit the acceptance of parcels containing flowers or plants for transmission by inland parcels post. It was announced at the time that small packets of flowers and plants might still be sent by letter post, but this concession has been so far abused that it has become necessary to extend the prohibition to all forms of postal packets, including letters. On and from February 13, therefore, the prohibition against the transmission of flowers and flower-plants through the post is absolute. The prohibition does not apply to artificial flowers; bulbs and seeds; plants used for producing food crops; and trees, shrubs, and bushes with persistent hard woody stems provided they are not in soil or pots.

The ban on rail transport of flowers, which became effective on November 1 last, was recorded at page 209 of our August 28 issue.

The matter was made even more specific during the past week by the Transport of Flowers Order, 1943, which was made by the Minister of War Transport on February 13, and came into operation on February 16. This orders that no person shall consign or tender, or cause to be consigned or tendered, for conveyance by rail, or take with

him upon any train, any flowers or plants, with the following exceptions:—

- (i) Flowers or plants for export for which a certificate of health for export has been granted by the Ministry of Agriculture.
- (ii) Plants used for producing food crops.
- (iii) Hardy nursery stock not in soil or in pots.

The railway companies are left with discretion to permit a passenger to carry with him small quantities of flowers or plants, not connected with trade or business, provided they are either unpacked or are so packed as to disclose their nature on sight. (See editorial article, page 185.)

Fares and Rates Increase in Bulgaria

It is reported that passenger fares and goods rates throughout Bulgaria were increased by 30 per cent. from December 1 last.

Goods Rate Increase in Croatia

The Croatian State Railways further increased their goods rates on February 1. The increase is 30 per cent. in respect of rates for full wagon loads, and 50 per cent. for parcels.

Turkey and Roumania

It is reported that a commercial agreement between Turkey and Roumania was signed at the end of January. Roumania is to receive cotton, copper, and creosote in exchange for railway rolling stock, oil, and cellulose. It is not clear how or when Roumania expects to be able to deliver railway rolling stock to Turkey, in view of the shortages being experienced by all the belligerent countries. One feature of this barter agreement is stated to be an undertaking by Roumania to supply 70 tank wagons to the Turkish State Railways in exchange for iron and copper ore to be supplied by Turkey.

Belgian Rolling Stock for Germany

A statement issued by the Independent Belgian News Agency at the end of January said that the Germans had now appropriated a total of 1,200 locomotives, 40,000 wagons, and 375 miles of rails from the Belgian railways. These figures accord approximately with information which has reached us from other sources. It may be recalled that we have criticised somewhat wild estimates that have appeared in certain of the daily newspapers in this country, one of which reported that the Germans had requisitioned from Belgium substantially more locomotives than there were in service throughout the whole of Belgium at the outbreak of war. Earlier reference to the seizure by the Germans of Belgian railway equipment were made in our issues of November 13, 1942 (page 474) and December 11, 1942 (page 586). There is a discrepancy between the 625 miles of rails which were reported as seized last November and the 375 miles now stated to have been removed, but this may possibly be explained by the assumption that labour shortage and other difficulties have so far prevented the removal of all the seized mileage. With regard to railway wagons, the pre-war total of the Belgian National Railways was 98,892. To these must be added the whole or some part of the 5,530 then owned by the Nord-Belge, and very much smaller numbers in the hands of private railways such as 10,474 of the Vicinaux, 1,429 of the Malines-Terneuzen, and 196 of the Chimay Railway. It is believed that there were approximately 117,000 wagons in the hands of the various Belgian railways at the time of the German invasion.

No Swedish Locomotives for Norway

An application by the German-controlled Norwegian State Railways to hire

locomotives from Sweden has been refused on the plea that the Swedish Railways have too much traffic of their own to carry at present, according to the Stockholm newspaper *Nya Dagligt Allehanda* of February 5.

Reichsbahn Repair Shops

Work in the Reichsbahn repair shops increased by 16 per cent. in 1942, as compared with the level attained in 1941, according to a recent declaration of Secretary of State Ganzenmüller, when he recently transferred an important Reichsbahn repair establishment to the Reich Minister of Armaments (Dr. Speer). That performance, said Ganzenmüller, had been made possible through the absorption of locomotive and wagon building in the armament programme drawn up by Speer. Locomotive building in Germany was now 80 per cent. above the highest record ever attained previously and an even higher level was planned for 1943. The labour freed from the repair shop turned over to Speer had been transferred to new Reichsbahn repair shops erected in the Occupied Eastern Regions.

Middle-East War Transport

A report of February 1 from Teheran records the arrival of powerful oil-burning American-built locomotives (produced to British specification) and large numbers of American-built wagons, to strengthen the rolling stock of the Trans-Persian Railway, which is conveying increasingly heavy loads of Allied supplies for Russia.

In Iraq, a British oil company is building a series of pipe-lines to key transport centres in both Iraq and Persia (to the requirements of the British Army), to facilitate supplies for Russia and to relieve traffic on the railways. Hitherto, fuel for the transport lorries used on the supply highways to Russia have had to be carried by rail to distribution points. The series of pipe lines should reduce materially the haulage of tank wagons.

Tunisian Road System

The latest official data regarding the Tunisian highway system apply to January 1, 1938, when there were 7,683 miles of road; of these, about 190 miles were built during 1937. One of the problems confronting the Tunisian Government in recent years has been the competition between road and rail services resulting from the fact that most of the main highways in the north and along the east coast follow parallel routes, or connect the same points by slightly different routes.

This led to the establishment of a Road-Rail Co-ordination Committee in 1933; this committee's principal actions were (in 1933) to prevent any increase in the number of motor vehicles carrying merchandise, and (in 1937) to impose high taxes on motor vehicles carrying passengers. The chief deficiency in the highway systems appears to be that of good all-weather roads in the central part of Tunisia, especially in a north-south direction; many of the existing roads in this area are not usable during the wet winter season.

Petrol Rationing in Panama

Petrol rationing became effective simultaneously in the Republic of Panama and in the Panama Canal Zone on October 1 last, and has already resulted in a substantial diminution in the movement of private motorcars. Reference to the effect of tyre shortage in Panama was made at page 626 in our issue dated December 18 & 25, 1942.

Highway Link in Brazil

A 62-mile highway between São Leopoldo and Caxias, Brazil, was opened throughout

to traffic last September, according to press reports, adding another link in the new Getulio Vargas Highway which will connect the southern part of the country with Rio de Janeiro. Reference to the completion of another part of this highway was made at page 403 of our issue of October 23, 1942.

Salvage of Rails on the Central Brazil Railway

In view of the difficulties of importing steel rails, the General Manager of the Central Brazil Railway has issued instructions for all lineside fencing to be examined with the object of using all serviceable rails for extensions and main-line replacements. Where such rails are unserviceable for main running lines, they will be used in sidings, and the good rails thus released will be used elsewhere.

Railway Fuel in Brazil

For a time, the diesel-electric trains operating on the Central Railway between Rio de Janeiro and San Paulo, Brazil, were suspended because of lack of fuel, but then it was discovered that fuel oil produced in Brazil was sufficiently good for this purpose, and the trains are once more running between the two cities. Lack of coal, however, has compelled the Central Railway to reduce the number of its trains, and the sleeping carriages have been taken off the night trains to reduce fuel consumption. It is because of these difficulties that the Government is pressing the extension of the electrification of this railway.

Subsequent reports indicate that the fuel oil being used on the Central Railroad is extracted from local bituminous deposits. They are of lower grade than imported coal, but are said to permit of the extraction of a satisfactory fuel for diesel engines.

Strategic Bolivian Highway

Bolivia has decided to build a strategic 400-mile highway to connect the highland city of Cochabamba with Santa Cruz, the leading city in the interior valley region. This highway will provide the final link in the much discussed 2,500-mile transcontinental rail and road route connecting the Brazilian port of Santos on the Atlantic with the Peruvian port of Arica on the Pacific. This new transcontinental route will be of commercial as well as strategic importance, in that it will provide the only overland connection between the Atlantic and the Pacific in between the Panama Canal (which is 2,000 miles to the north) to the Argentine-Chile Transandean Railway (which is 850 miles farther south). It should play an important role in the future development of Bolivia, Chile, and southern Brazil. A railway connects Cochabamba with the Chilean port of Arica on the Pacific. The Brazilian railways already extend westward from the port of Santos to Corumba on the border of Bolivia, and under an agreement with Bolivia, Brazil is now building a 414-mile line westward from Corumba to Santa Cruz, details of which we published in our issue of January 24, 1941 (page 103). About half of this railway is finished. When it is complete, there will be a 400-mile gap between Santa Cruz and Cochabamba.

The decision to unite these last-named cities by means of a highway instead of a railway is based on several important considerations. Santa Cruz is 1,200 ft. above sea level, and Cochabamba is 8,500 ft. There is difficult mountainous country in between, which would make railway building a slow and expensive undertaking. The highway is estimated to cost about \$7,000,000, and to take three years to build. A railway over the same route would probably cost at least \$35,000,000,

and would take much longer to construct. Furthermore, there is not enough traffic in immediate prospect to justify a railway. Highway construction also has an important advantage that it will require considerably less imported material and machinery, which are at present difficult to obtain. The highway will be hard-surfaced and of a type to carry heavy traffic, making it possible to travel from city to city in one day. At present, communication is almost non-existent between the highlands of Bolivia (where Cochabamba lies) and Santa Cruz, the principal trade centre of the lowlands, and at some seasons of the year it takes an ox cart hauling merchandise 7 weeks to make this trip. Goods rates for this trip have recently been as high as 3 bolivianos a lb., and 15 bolivianos is the current day wage of agricultural labour. From this it is apparent that the cost of food and other products in these interior points is almost prohibitive. On the other hand, it is impossible for the producer to ship agricultural products to the markets of the highlands where there is currently a great shortage of meat and a correspondingly high living cost.

Suspending Canadian Pass Facilities

During the Christmas holidays the use of free passes on both the Canadian Pacific and Canadian National Railways was suspended for 16 days. The only exceptions made were the passes held by officers and employees travelling in the performance of their duties, or passes for journeys made necessary by illness or death in the holder's family, but all such users were required to be in possession of a "Pass Authorisation Form" duly filled in; passes held by officers or employees in the Forces who were travelling on leave; residential passes used by members of the staff between their homes and their offices; and passes held by dependents of employees for travelling to and from their schools.

The Alcan Highway

The entire town of Dawson Creek in British Columbia, the southern terminus of the Alcan Highway, and a supply base for Canadian and American wartime projects in the Canadian north west and in Alaska,

was destroyed by a fire and explosion, according to a press message of February 15. Some persons were killed and many injured, apparently because the flames reached a dynamite store. U.S.A. aircraft conveyed the seriously injured to Edmonton Hospital.

Compulsory Pooling of U.S.A. Bus Services

On November 10 the Office of Defense Transportation in the United States directed the four companies operating motorcoaches between New York and Miami, Florida (Pennsylvania Greyhound, Atlantic Greyhound, Pan-American Greyhound, and Florida Motor Lines) to co-ordinate their operations by honouring each other's tickets, diverting traffic to each other when in this way the opera-

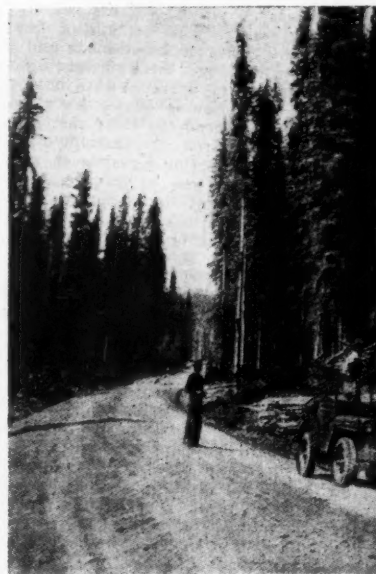
tion of extra coaches can be reduced, eliminating duplicate station and ticket facilities as far as possible, and staggering departure times. The Order became effective on November 24.

A similar Order, effective on November 25, was made on November 11 to co-ordinate the motorcoach service of the Southwestern Greyhound and New Mexico Transportation lines between Amarillo (Texas) and Albuquerque (New Mexico).

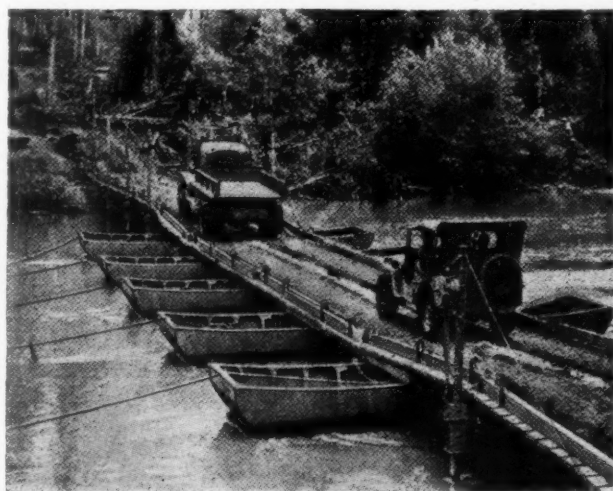
Also, by O.D.T. Order, on December 1, urban bus services were curtailed in New York, Richmond, Cincinnati, and Chicago, and on December 28 in Philadelphia and Baltimore, where adequate tram services are available on the same or closely parallel routes.



A section of the Alcan Highway in impressive mountain country. Such portions are now being widened.



Much of the road is wide enough for vehicles to pass (as above). All is well cambered to facilitate drainage.



Pontoon bridge used for crossing a major stream during early stages of construction work, and subsequently replaced by timber bridge as shown alongside.



Timber bridge built of trees cut in clearing the track. Spruce was used for piles, bracing, and decking, and poplar for guard rails.

SOME VIEWS ON THE ALCAN HIGHWAY

Ministry of War Transport Accident Report

Waddon, S.R., November 4, 1942

At about 6.31 a.m. on November 4, 1942, in a dense fog, the 6.15 a.m. electric 8-car train from West Croydon to Wimbledon and Holborn collided at about 10 to 15 m.p.h. with a similar train, the 5.34 a.m. London Bridge to Epsom, waiting in Waddon Station; the down starting signal was at danger. The motorman of the colliding train was killed and two passengers were injured. It was still dark and visibility of lights was estimated at about 25 yd. The signal box is on the down platform, and its centre was 30 yd. east of the tail of the standing train. This section of line is worked by Sykes' lock-and-block and the control on the down block plunger is such that it cannot be operated until not only has the down home signal lever been pulled and replaced, to clear the "train on" indication from the instrument, but also the down starting signal lever, which is backlocked to treadle, in order to free in turn the front lock on the home signal. Until this takes place the electric block semaphore arm at the box in rear is held raised, even if the ordinary switch hook is not used. (This arrangement was standard practice at many L.B. & S.C.R. stations.) Colonel A. C. Trench conducted the inquiry into this case.

The train for Epsom was held in Waddon Station as the signalman at Wallington had certain movements in progress which delayed the sending of the "train out of section" signal for the preceding train. Guard Maynard was told by Signalman Steer that he would have to wait, and walked up and down for a while, during which time a lengthman came out of the box and went to the fogman's post at the up distant signal. The fogmen had been summoned at 5.20 a.m. Maynard later heard Steer telephoning and went into the box to ask the reason for the delay. He was told there was a train coming and said "What about my train in the station?" Steer, who evidently did not realise that Maynard was the guard to whom he had previously spoken, inquired "Who are you?" Maynard ran out with a lamp to try and stop the train and Steer threw the down home signal to danger, but it was too late. The train ran by while Maynard was on the steps of the box.

Signalman Ashbee at Wallington had to shunt the preceding train, which had arrived at Waddon 12 min. late at 6.15 a.m., and did not give "train out of section" for it until 6.25 a.m., a few minutes after the Epsom train had arrived at Waddon. Shortly after this he telephoned and asked Steer if he had anything coming. Steer maintained that Ashbee asked "Where is the Wimbledon?" but the latter denied mentioning any particular train, knowing that in fog trains often ran out of course. He accordingly brought a train from a siding into his down platform and at 6.28 a.m. received "Is line clear?" for a Wimbledon line train, by the 3 pause 3 pause 1 bell signal. (For an Epsom train the 3 pause 1 bell signal would be used.) He was finally able to accept at 6.30 a.m. and received "obstruction danger" two minutes later.

Signalman Henson, West Croydon, said that at 6.26 a.m., not having had "train out of section" for the Epsom train and

having the Wimbledon train waiting, he telephoned to Steer, who said the Epsom train had gone from Waddon and that he had given "train out of section" for it. Henson replied that he had not received that signal and that his Sykes electric semaphore was still up. Steer said his apparatus was normal and suggested Henson should tap his instrument case as his semaphore was probably sticking. He did so without result and, after further conversation and assurances from Steer, Henson offered the Wimbledon train. The bell acknowledgment was received, the semaphore flickered down and up again and the lock on the signal lever was freed. The train left at about 6.29 a.m.

Steer said that he looked out when Henson telephoned and could not see the Epsom train. He thought it had gone and that the "train out of section" signal he had received from Wallington applied to it. His home signal lock indicator, which had correctly shown "locked" after the signal was put to danger behind the Epsom train, showed "free" when Henson telephoned, although he had touched nothing, and it was this which made him so certain that Henson's semaphore ought to be down. Steer had not used his switch-hook, in accordance with the instructions issued after the serious accident at Battersea Park on April 2, 1937, which should have helped to remind him of the position of affairs, but said he usually did so. He is 66 years of age and has been a signalman for 42 years, 6 years at Waddon. He was emphatic that he had not used the release key, although it was pointed out that the movements Henson's electric semaphore were seen to make were just what would have happened had he used the key and plunged immediately. He lowered his home signal for the Wimbledon train but threw it "on"—too late—when his second conversation with

Maynard showed him the mistake he had made.

Steer frankly admitted that he had forgotten the Epsom train; it is quite possible he was correct in saying he looked out and could not see its tail lamp. His evidence implied that the Sykes apparatus had failed to guard against this contingency. Electrical circuits do develop intermittent failures which cannot be located by test, but in this case the relevant apparatus was entirely mechanical and Colonel Trench does not think it could develop a failure of which in subsequent examination and operation there is no sign whatever. He considers that Steer must have used his key and that his denials were based on his honest opinion; that he had done this more or less automatically and forgotten about it, in the same way that he had forgotten the train itself, after warning the guard that he would have to wait. He was subject to medical examination every 6 months and on November 11 was reported fit medically, but with vision slightly worse than a year before and no effective vision in the left eye. No blame is attached to any other servant. (The down starting signal at Waddon is exempted from the provisions of Rule 55.) The lighting in the box is dim at one end and Steer may have been mistaken about the "locked" and "free" aspects of his instrument from a hasty glance, but such mistake should not have persisted when Henson challenged the position, when it is reasonable to assume that Steer would have looked more closely.

Certain alleged failures of the Sykes apparatus were brought to Colonel Trench's notice. They were not relevant to this case, but he emphasises that the attention of signalmen and linemen should be drawn to the importance, in their own interest apart from other considerations, of strict compliance with the regulations concerning reporting and rectifying faults.

"It is generally recognised," the report states, "that the provision of a release key is a regrettable necessity with the Sykes lock-and-block system, and the improper use of the release may introduce



General view shortly after the accident

the possibility of failure of the elaborate safeguards provided by the normal operation of the system. In some cases, the use of the release is safeguarded by the need for co-operation of two men and it is for consideration whether an extension of such co-operative releases is not justified. In this particular case of a platform section, if one of the station staff had had to work a release on the platform before the signalman's key release was effective the accident would not have occurred; arrangements of this nature are understood to be in use in certain places abroad."

Parliamentary Notes

Grand Union Canal Bill

The Grand Union Canal Bill was read a Second time and committed to a committee in the House of Lords on February 9.

Producer Gas

The Duke of Montrose in the House of Lords on February 3 asked the Government whether it could now state what progress had been made in developing producer-gas propulsion for motor vehicles. He said that in April the Minister of War Transport told the House that he had decided to adopt the producer-gas system in some measure for transport purposes. In July the Minister told them that he had completed designs and had actually placed orders for 2,500 vehicles, and that in the course of a very short time he hoped to have deliveries made of further vehicles at the rate of 400 a week. He (the Duke) had heard rumours that the programme was behindhand. He understood that the Minister produced a scheme whereby operators owning a certain number of vehicles in a fleet, would be requested to convert 10 per cent. of their vehicles. On that basis of 10 per cent., the Corporation of the City of Glasgow should have had an allotment of material or plant to convert 47 buses, but he was informed that the corporation had received allocation for twelve buses only. He understood that 35 municipalities and corporations had been asked to convert vehicles on that 10 per cent. basis. If their position was the same as that of the City of Glasgow, the programme must be very seriously behindhand. Any policy which gave a promise of conserving oil in this country now, for the use of our Services, was a policy of the utmost importance. He had a feeling that the Minister of War Transport was not really making sufficient use of the capacity and experience of private firms to back him up. He had seen a letter from the Ministry of War Transport saying that it was prepared to allot steel on the basis of 351 units among six firms for a period of six months. That was only $2\frac{1}{2}$ units a week. Surely no private firm could hope to keep in existence on a basis of $2\frac{1}{2}$ units a week. That was simply slow murder of private industry. He hoped that the Minister would be able to see his way to give further support to private firms. The Minister had gone from the Mark III to the Mark VI plant mainly and almost entirely through the skill of the firm of Thomas Tilling Limited. The Highland Bus Company was a pioneer in showing how to fit producer-gas plants internally in closed-in vehicles. As a private firm, it had also pioneered various filtering devices. Now the Glasgow Corporation was pioneering a system of applying producer gas to diesel-engined vehicles. This was a very important matter, for when it ran its buses as ordinary diesel-engined buses it managed to get about nine miles to a gallon of oil;

but when it ran them with the diesel principle coupled with producer gas it got 25 to 30 miles to a gallon of oil. That meant that if the application of producer gas to diesel-engined vehicles was carried out generally there would be a saving of 2,500,000 gal. of oil in six months.

Lord Pentland referred to the scheme for 10,000 producers, and said it was much too late now to alter the design. No one had yet evolved a really satisfactory producer. No doubt it was in course of development, but he thought the Government had been inclined to be rather arbitrary in fixing the design.

Lord Sempill asked the Minister whether he proposed ordering additional numbers beyond the 10,000 units programme which he had visualised some time ago.

Lord Leathers (Minister of War Transport) said that substantial progress had been made in the development of producer-gas propulsion since the House debated the subject on July 22. They had completed their production plans for the two standard types of producer in numbers approximate to what he indicated when he addressed the House, and they had taken steps for all the necessary spare parts. By the middle of January some 530 of the bus type of producer had been distributed throughout the country and the staffs of all those companies were now getting the experience of the use of producer gas. Further producers of this type would now be delivered at the rate of 300 to 400 a month, and production would be completed substantially by the end of July. A good deal more work was necessary when they came to deal with the producers for goods vehicles, and it became clear, when they took into account all the things that had to be brought into construction, that they had to give the greater part of the contract to one firm skilled in the process of quantity production. A good deal of time was entailed in tooling up, but he expected to get nearly 400 in March, rising to nearly 1,300 in May, so that by that process manufacture should be completed by August. They would have preferred a more rapid rate of progress, but it must be remembered that it was very hard indeed to start up a new manufacturing process at this stage of the war. There would have been no point in accelerating the rate of manufacture since the present rate would give them as many producers as they could see their way to fit, bearing in mind that the staffs at the garages were already seriously depleted and great difficulties were being experienced in maintaining the road vehicles in an efficient state of repair. The actual work of fitting would be done by dealers and agents selected by five leading manufacturers of goods vehicles, who were also setting up schools to train mechanics in the fitting of the producer-gas units and were making arrangements for the teaching of the drivers.

He recorded his gratitude to those firms for the great advantages the Ministry had derived from their practical experience and ready co-operation. On the passenger side the undertakings were handling their own conversions and training their own personnel, and it was only right that he should express their thanks to Thomas Tilling Limited and the London Passenger Transport Board which had made facilities available to them at their depots for the education of the staffs of other operators.

The difficulties of making fuel available had now been satisfactorily overcome, and arrangements had been made for suitable stocks throughout the country. Fuel, however, remained a limiting factor. He was satisfied that it would not be possible to go beyond the 10,000 vehicles, so long as

they must confine themselves to the special fuel. For that reason great importance attached to the experiments which were now proceeding in an attempt to run producers efficiently on the ordinary high-temperature coke.

Since the Government decided to embark on the producer gas scheme the whole war situation, as it affected road transport, had undergone considerable change. When the producer gas scheme was in full operation they could look for an appreciable saving in imported fuel, but the really big saving in fuel and rubber would come from the other measures of economy they had taken.

Air Transport

The Marquess of Londonderry, a former Secretary of State for Air, in the House of Lords on February 10, called attention to the vital necessity of securing for this country a due share in the development of air transport, so vital to the maintenance of communications throughout the Dominions at home and overseas; and asked the Government for an assurance that this subject was receiving immediate and earnest attention as being one of the most urgent of post-war problems. He said that civil aviation—he preferred the term "air transport"—should undoubtedly come under the jurisdiction either of a Ministry of its own or, better still he believed, under a reconstructed Ministry of Transport. The question could not wait for post-war development, and must not be passed on to hard working officials who very probably had very little practical knowledge of the air. Transport and troop-carrying, aircraft, due to the stress of the war and the conditions prevailing as a consequence of the war, had been produced mainly in America, and it was no secret that commercial aviation was also developing in the United States with phenomenal rapidity. The Americans fully recognised the part aviation must play in the future. He was not thinking for one moment of challenging America and suggesting a cut-throat competition all over the world. He sought to secure for this country a due share in the development of air transport. He was certainly in favour of rivalry in efficiency and execution, and there was a tremendous opportunity which the British Empire, Russia, Holland, and other countries could embrace of continuing that co-operation and understanding which the war had forced on us in the atmosphere of the peace. A definite statement of Government policy was required to allay the anxiety existing throughout our Empire Commonwealth. He certainly hoped that an Empire Air Council was in being. He wanted the Government to call on the shipping companies to take the lead in the air as a new method for expanding their activities. He would like to see someone with the dynamic influence of Lord Beaverbrook take this matter in charge and see that a policy was laid down and was forthwith put into operation.

We lacked transport aircraft. He believed that it might be possible for the Government to implement the Lease-Lend arrangements with America and by that means obtain the aircraft which were immediately required for what he would call our short-term policy. The Government, the shipping companies, the railway companies, or other private enterprise must quickly come to decisions, state their requirements, and call for blue prints from the designers. From the blue print to production a period of

something like three years must elapse, and the outlay was in the vicinity of half a million or more. He was opposed to subsidies, as such, and also to granting a monopoly to one company. Both these subterfuges killed enterprise. The best method of finance would be by loan, if necessary, on the easiest terms, which would ensure that proficiency would be the main object, and not profits. He would expect the Government to take full responsibility for aerodromes, meteorology, wireless, and also the ground staff. Research must be continuous and liberally maintained. He urged that a policy should be propounded by the Government, and the necessary steps taken for the promotion of that policy as far as it could be carried out in present circumstances.

CONTROL OF AIR LINES

Lord Strabolgi agreed as to the necessity for preparations in advance. The Labour Party believed that it was necessary, in the first place, to buy out the private financial interests in this monopoly of the British Overseas Airways. Secondly, it believed that our internal air lines in this country should be free of railway control, and that our overseas lines should be free of shipping control. Thirdly, it believed that it would be necessary to seek full international collaboration with the other countries principally concerned and more especially with the United States of America and the U.S.S.R. He did not think they could contemplate for one moment permitting the Germans, the Japanese, or the Italians to operate commercial aircraft after the war for many years to come.

Viscount Bennett, a former Prime Minister of Canada, said he held the view that if we were not to sink to the level of a second class Power we had got to have an air transport service now. He did not mean that we should make a start next year or the year after. For freight transport we could use some of the machines which we now had for the carriage of freight, but we certainly could not use them for passengers and compete with our competitors, and we might as well face that fact. Unless we made immediate provision for our needs, two years must elapse before we could provide the facilities which would be comparable to those now in being in the United States of America for the transport of passengers. He suggested that the airways corporation should be reorganised without delay. The shares should be owned in the right of the Crown, and the directors should have no interest in any other enterprise.

Lord Mottistone said we should have a special Minister for Transport and research apart from war air activity. The Minister should devote his whole energies to it, and should receive adequate support.

The Duke of Sutherland, who is President of the Air League, said that body was in favour of four broad lines of policy: first, production of specially designed, four-engine transports for use in the concluding stages of the war and ready for the first days of peace; secondly, plans for the conversion of these to civil use after the war; thirdly, the operation of air lines by shipping companies instead of by a monopoly air transport company; fourthly, the transfer of air transport control to the Board of Trade. The suggestion that the railways should operate internal air services, while the other companies operated external ones was unsound.

Lord Brabazon of Tara suggested that we build up an internal Air Transport Corps within the Royal Air Force.

Lord Sempill asked the Government whether arrangements could not be made for firms now constructing bombers that were in daily use, to concentrate to an even greater extent than they were now doing on the design of transport-type fuselages for the wings, under-carriages, and power units of the bombing machines.

Viscount Trenchard said the four great Allied Powers should get together and decide whether there was to be freedom of the air as there was freedom on the seas. That had got to be settled before the questions of organisation, or monopolies, or the machines.

Lord Gorell said that it was essential that for the future of air transport generally, the three great air Allies—Great Britain, America, and Russia, should work together.

Lord Derwent asked the Government to inform them definitely whether there were any means whereby we might as soon as possible open negotiations with the United States and any other potential rivals in what looked like being the most dangerous competition and see if we could not transform it into a useful collaboration.

GOVERNMENT'S REPLY

Lord Sherwood (Joint Under Secretary of State for Air), replying to the debate, said that although it was the first aim of the Government to win the war, it was acutely conscious of the vitally important part which civil aviation would play in the post-war world. The report of the technical committee under the chairmanship of Lord Brabazon, which had been inquiring into the question of the development of types of aircraft for civil aviation, had been handed to the Secretary of State for Air and the Minister of Aircraft Production on Tuesday. Very nearly all of it must be secret. He assured the House that it would receive the most careful consideration which it merited. There was much preparatory work to be done as a necessary preliminary to the formulation of policy. When that was completed it would be for the Government to decide—and the decision would be taken at the earliest possible moment—whether any, and if so what, proportion of the aircraft industry and design staffs might be diverted from military work to the design and production of civil types. The Government was giving earnest thought to the organisation of civil air transport after the war. All the various issues were being closely considered by the Government, and they would certainly be discussed as soon as might be practicable with the Dominions and with the other members of the United Nations.

Lord Barnby suggested that Lord Sherwood should sympathetically consider a recommendation to the War Cabinet for the setting up of a Joint Standing Committee of both Houses to which they would accord some appropriate status so that they might be reinforced in their activities by a committee constituted in that way.

The Marquess of Londonderry said that the House had not been told whether the Government had a policy or not. He gave notice that he would raise the question again in a month's time. He hoped that by then the Government would have made up its mind, and would tell the House the policy on which it had settled.

Questions in Parliament

Post-War Air Transport

Major E. G. R. Lloyd (East Renfrew—C.) on February 3 asked the Prime Minister whether he would consider approaching the United States Government immediately with a view to obtaining agreement as to the post-war conduct of war air transport, such agreement to include a pooling of transport aircraft supplies.

Mr. C. R. Attlee (Deputy Prime Minister): This is doubtless one of the many subjects which will call for consideration with the United States Government and other Governments, including those of the Dominions and India. I am not at present in a position to say when such discussion will begin.

Major Lloyd: Is the Minister aware that there is growing concern in the country in regard to the importance of this matter and that the concern is now being increasingly shared by our airmen, who desire to have some prospect of carrying on their skill after the war?

Mr. R. R. Stokes (Ipswich—Lab.): Can the Minister assure the House that no secret arrangement has been come to between this country and the United States in regard to civil aviation?

Mr. Attlee: No such arrangement has been come to.

Locomotives in Coal Mines

Sir Robert Gower (Gillingham—C.) on February 4 asked the Minister of Fuel & Power the number of mines in Scotland where electric battery locomotives were used for auxiliary and face haulage; the number of these locomotives in use; and the percentage of the output carried by them.

Major G. Lloyd George (Minister of Fuel & Power) stated in a written answer: Fourteen electric storage battery locomotives are in use at six mines in Scotland, and they deal with approximately 30 per cent. of the output of those mines.

Petrol Allowance

Mr. R. De La Bere (Evesham—C.) on February 4 asked the Minister of Fuel & Power whether, in connection with the recent vote against high-powered motor cars being allocated any petrol, special consideration would be given to farmers who had high-powered motor cars for the purpose of drawing trailers with farm produce.

Major G. Lloyd George in a written reply stated: There is no such veto, but I do not encourage the use of high-powered cars and petrol allowances are not calculated at a higher consumption rate than one gallon to twenty miles except in exceptional circumstances, such as the need to draw a heavy trailer. In accordance with this decision Regional Petroleum Officers are empowered to grant an increased allowance for cars of any horse-power in respect of mileage run with a trailer.

Producer Gas

Mr. W. Thorne (Plaistow—Lab.) on February 4 asked the Parliamentary Secretary to the Ministry of War Transport how many London buses were being run by producer gas; what was the estimated saving of petrol a year; what amount of anthracite coal was burnt for each bus; how many miles the bus would run before being refuelled; and how many service stations were being arranged?

Mr. P. J. Noel-Baker (Joint Parliamentary Secretary to the Ministry of War Transport) stated in a written answer: The London Passenger Transport Board is at present operating 19 buses on producer gas. This number will in the next few months, be increased to approximately 550. When

the whole scheme is in operation there will be a saving of 3,500,000 gal. of petrol a year; each bus will burn approximately 1 ton of anthracite coal a week and will require re-fuelling every 80 miles. Provision is being made for 27 service stations to handle the stock of anthracite coal and to serve producer-gas trailers.

Promotion of Railway Clerks

Mr. Ness Edwards (Caerphilly—Lab.) on February 9 asked the Parliamentary Secretary to the Ministry of War Transport if he was aware that a large degree of dissatisfaction existed among the administrative grades of the railway workers in South Wales with regard to the alleged discrimination against those involved in the 1926 stoppage; and if he would cause enquiries to be made and any proven injustice removed.

Mr. P. J. Noel-Baker (Parliamentary Secretary, Ministry of War Transport) in a written reply stated: I am informed that on January 30 the General Manager of the Great Western Railway received a telegram alleging favouritism in recent promotions of senior clerks in the Cardiff Division and asking for an investigation. The General Manager has asked the authors of the telegram to furnish detailed information about the specific cases which they have in mind, but I understand that this information has not yet been received.

Road Haulage Clearing Houses

Captain W. F. Strickland (Coventry—C.) on February 10 asked the Parliamentary Secretary to the Ministry of War Transport whether, in view of further investigation and the support of manufacturers and traders associations he would give fresh consideration to the value of utilising the experience of clearing houses in organising effective and economic operation and co-ordination of road transport vehicles, particularly as to the best use of the longer distance vehicles, of which the majority now in use belonged to the smaller operators.

Mr. P. J. Noel-Baker: Some time ago I met, on behalf of the Minister of War Transport, a deputation from the Conference of Road Transport Clearing Houses. Later the Minister of War Transport himself received the leaders of certain associations and traders. In the light of these representations, he has given the most careful consideration to the question of using clearing houses in the organisation of his road haulage scheme. He has come to the conclusion that, in general, he can operate the Road Haulage Scheme most effectively and economically by using to the full the organisation of the controlled road haulage firms themselves and that he would not be justified in arranging for the general employment of intermediaries between the road haulage organisation and the Government Departments or other consignors of traffic. There may, of course, be cases where it is still to the advantage of a merchant or trader that a clearing house should act as his transport department and the Minister of War Transport would make no objection to such an arrangement, but it would have to be understood that the clearing house looked to the merchant or trader for its remuneration and that it would not be possible for the Government to allow commissions to the clearing house on the rates which its road haulage organisation will charge for the transport of goods.

Captain Strickland: Has the Parliamentary Secretary given due consideration to the communication which he has received from the London Chamber of Commerce pointing out the extraordinary value of these clearing houses, particularly as they

assist the small operators, of whom some 10,000 have now indicated their desire that these clearing houses should be continued? May I also ask whether, before a decision is taken, the Parliamentary Secretary would be willing to receive a further deputation?

Mr. Noel-Baker: We have considered all the representations, and the Minister of War Transport has given most careful consideration to the whole subject. I can hold out no hope of any change of policy, but if Captain Strickland thinks that a deputation will serve a useful purpose, I shall be very glad to receive it.

Sir Joseph Lamb (Stone—C.): Will not the Parliamentary Secretary admit that the closest collaboration is necessary, for the success of this or any other scheme, with those concerned in these industries?

Mr. Noel-Baker: Every step that we can take to secure closer collaboration is required.

Sir John Mellor (Tamworth—C.): Is not the Parliamentary Secretary aware that there is widespread support for the appeal contained in Captain Strickland's question?

Mr. Noel-Baker: Yes, Sir, I know what the support is, but we have to look at the technical merits of the question.

Transport for Factory Workers

Mr. Edgar Granville (Eye—Ind.) on February 10 asked the Parliamentary Secretary to the Ministry of War Transport if adequate transport arrangements had now been completed for war workers in the industrial town of which he had been informed.

Mr. P. J. Noel-Baker: The factory management have not yet reached a decision on the proposal made to them but they are meeting a representative of the bus company on Friday, and I hope that an agreed settlement will then be made.

Mr. Granville: Is not the Parliamentary Secretary aware that these discussions have been going on for months as to whether the bus company or the factory management shall pay for extra buses, and that meanwhile workers are going home late at night and that production is suffering? Will he not make a decision himself in the matter?

Mr. Noel-Baker: This is a very complicated question and delay is inevitable, because many different authorities have to be consulted. If Mr. Granville desires I will show him the time-table of what has happened, and I think he will see that the delay cannot be laid to the charge of my department or of the Regional Transport Commissioner.

Mr. Granville said that owing to the very unsatisfactory nature of the reply he would raise the matter on the Adjournment at the first opportunity.

Cheap Railway Fares

Mr. R. W. Sorensen (Leyton West—Lab.) on February 10 asked the Parliamentary Secretary to the Ministry of War Transport whether he was now in a position to state what reduction in passengers carried had taken place in the London Transport area arising from the withdrawal of cheap fares and other facilities; and whether in the case of any services that showed no reduction since the withdrawal, he would consider the re-establishment of the former fares, particularly from and to Greater London areas.

Mr. P. J. Noel Baker: I have received very few returns of railway traffic in the London area since I answered a similar question by Mr. Sorensen on December 16; I am, however, asking for further information and will communicate with him again. I have not yet had any evidence that there is any railway service in the London area

on which there has been no reduction of passenger traffic since the cheap day tickets were abolished. But even if this had happened on some services, it might be due to the diversion from road to rail caused by the abolition of Green Line coaches and by the other measures which we have taken to restrict the use of buses. In general, I think it is fair to say that the abolition of cheap-day tickets has secured the reduction in non-essential travel for which we hoped.

Mr. Sorensen: Can the Parliamentary Secretary say why, if he finds on inquiry that the withdrawal of certain services or facilities has not led to a reduction in the number of passengers who travelled, these facilities should not be restored?

Mr. Noel-Baker: There are many other factors involved, especially diversion from road to rail. If Mr. Sorensen examined the question, I think he would see that it is extremely difficult to give differential treatment to one service.

Mr. Sorensen: Why should that be so, seeing that the whole of traffic is co-ordinated under one authority?

Mr. Noel-Baker: Mr. Sorensen wishes that there should be differential treatment of any service on which it has been proved that there had not been a reduction of traffic. I think we could not do that.

Gas-Lights at Railway Stations

Mr. T. E. Groves (Stratford—Lab.) on February 9 asked the Parliamentary Secretary to the Ministry of War Transport whether he was aware that at many railway stations there were by-pass gaslights burning all day which were of no use in the black-out; and whether, at least in the brighter days, he would give instructions for their discontinuance and thereby save fuel gas.

Mr. P. J. Noel-Baker wrote in reply: I am making inquiries and will communicate with Mr. Groves as soon as possible.

Civil Aviation

Mr. W. R. D. Perkins (Stroud—C.) on February 10 asked the Secretary of State for Air what requests he had had from shipping companies to operate air services from this country after the war; and whether any such request had been granted.

Sir Archibald Sinclair (Secretary of State for Air): Three shipping companies have recently asked for authority to operate air services from this country after the war; and a fourth has asked for an assurance that shipping companies will be allowed to participate in post-war air transport developments. The answer to the second part of the question is in the negative, for the reasons given by the Joint Parliamentary Secretary to the Ministry of War Transport on February 3 to Sir Robert Rankin (Liverpool, Kirkdale—C.).

Detecting Wheel-Seat Flaws, etc.

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underlying principle has been established, it is intended to institute routine testing of the axles on all L.M.S.R. coaches in accordance with a somewhat different procedure as and when the coaches come into the company's principal works for periodic maintenance. Already, as part of this procedure, all wheel-axle assemblies are removed from the bogies as a matter of course for inspection and repair, and there are obvious advantages in testing for wheel-seat flaws at the same time. The design of auxiliary loading equipment suitable for use under such conditions has accordingly been put in hand by the Chief Mechanical Engineer's Department.

Notes and News

L.M.S.R. Ordinary General Meeting.—The next ordinary general meeting of the London Midland & Scottish Railway Company will be held at Euston Station at 11.30 a.m. on March 5. Details are given in our Official Notices at page 203.

Institution of Electrical Engineers.—At an informal meeting at 5.30 p.m. on February 22, a discussion on "Single to Three-phase Conversion with special reference to the Ferraris-Arno System" will be opened by Mr. A. H. Maggs, B.Sc.

L.N.E.R. Ordinary General Meeting.—The twentieth ordinary general meeting of the London & North Eastern Railway Company will be held at Grosvenor House, Park Lane, W.1, at 2 p.m. on March 5. Details are given in our Official Notices at page 203.

Irish Railwaymen's Union.—The Irish Railwaymen's Union (address, 17, D'Olier Street, Dublin), which was established recently, has now been registered, and has secured a negotiation licence, as required under the provisions of the Trade Union Act, 1941.

Institution of Civil Engineers.—A paper entitled "Railway Construction in Great Britain under War Conditions" will be given by Mr. A. S. Quartermaine, M.C., B.Sc. (Eng.), M.Inst.C.E., Chief Engineer, G.W.R., to the Railway Engineering Division of the institution at 5.30 p.m. on February 23.

G.W.R. Publications and Timetables.—As from February 15 last, publications and timetables issued by the G.W.R. are being dealt with by the Publicity Department, and orders and communications should be addressed to the Publicity Officer at 14, Bishop's Bridge Road, Paddington, London, W.2.

Storms and Floods in Europe.—Widespread storms and floods have been reported during the past week or two from many parts of Europe. Earlier reports indicated transport dislocation in various parts of the Balkans by reason of snow and ice, but an early thaw seems to have been the primary cause of the more recent disturbances, which are stated to have affected Sweden and Denmark, and Spain and Portugal, as well as various Balkan states. It may be assumed that central Europe has also felt the effects, but that German censorship has restricted the release of details. A Stockholm message says that heavy rain and melting snow caused a large landslide on the Västergötland Railway, about 5 miles from Gothenburg, resulting in the suspension of both passenger and goods traffic. Danish reports say that many thousands of acres of land have been flooded by reason of the frozen canals being unable to carry away the flood waters. In northern Spain a passenger train is reported to have been derailed by the gales, causing death and injury to passengers. In Portugal, 75 m.p.h. winds are said to have caused heavy damage.

State Purchase of Wood Fuel in Argentina.—It is stated that the Argentine Government has arranged for the purchase of large quantities of firewood in the Northern Provinces for the use of the railways. The bulk of the wood will be conveyed to Buenos Aires by the State Railways; but, to avoid undue congestion, certain quantities will be brought down by

river from Barranqueras, La Paz, Diamante, and other ports.

Railway Broadcast in "Into Battle" Series.—A B.B.C. broadcast entitled "Air Raid," which will describe the work of the railway staff on the occasion of the bombing of a marshalling yard, will be given on February 20, in the "Into Battle" series. It has been written by Mr. G. Francis Robinson, and will be produced by Miss Brigid Maas.

L.M.S.R. Cartage Services.—During last year the L.M.S.R. road collection & delivery services carted 17 million tons of freight to and from railway stations. Despite the call-up of experienced carters, and the necessity for conserving petrol and rubber, this large quantity of goods was dealt with quickly and smoothly, with the help of nearly 200 women drivers, as well as many female "vanboys."

Broom & Wade Limited.—Trading profit for the year ended September 30, 1942, was £214,839. After deducting £20,006 for depreciation, £145,698 for income tax and E.P.T., and £10,972 as provision for deferred repairs, there was a balance of £38,163. Adding £33,954 brought forward makes £72,117. Dividend on preference shares takes £6,900, and interim dividend of 7½ per cent. actual on the ordinary shares absorbs £11,250. Final ordinary dividend is 15 per cent., making 22½ per cent. for the year, leaving £31,467 to be carried forward. The recommendation by the directors that the capital be increased to £400,000 by the creation of 440,000 new 5s. ordinary shares has been approved by the shareholders.

Control of Iron & Steel (No. 29) (Scrap) Order, 1943.—This Order, which came into force on February 10, adds a new specification to the Table of Specifications, set out in Table IIB of the Iron & Steel (No. 14) (Scrap) Order, 1940, of scrap for use in the manufacture of steel ingots. The new specification, which is numbered 3 (b), is substantially the same as the existing specification numbered 3, save that the scrap is limited in size to 1 ft. 6 in. in any direction. The price is the same as that at present in force for specification No. 2. The existing specification No. 3 has been amended slightly in the description and re-numbered as 3 (a). The price differential for quantities of 50 tons and upwards under the new specification is the same as that in force for specifications 4 to 15. Copies of the Order, price 1d., can be obtained from His Majesty's Stationery Office, York House, Kingsway, W.C.2, or through any bookseller.

L.M.S.R. Net Revenue and Dividends.—The following statement was issued by the directors of the London Midland & Scottish Railway Company on February 12: The net revenue of the company for the year 1942 is £15,590,000, or an increase of £340,000 as compared with the total net revenue for the year 1941. After setting aside the sum of £400,000 for wartime contingencies, and with the addition of £199,000 brought forward from 1941, there is a total of £15,389,000 available for interest on debenture stocks and dividends on other stocks. At its meeting today the board of the London Midland & Scottish Railway Company decided to recommend the following dividends to be paid on March 17, and to carry forward £95,000 to 1943:—

4 per cent. guaranteed stock, 4 per cent. preference stock, and 4 per cent.

preference stock (1923)—at £2 per cent. actual, less income tax at 10s. in the £, making with the interim payment £4 per cent. for the year 1942.

Ordinary stock—at £2 10s. per cent. actual, less income tax at 10s. in the £, for the year 1942.

Finnish State Railways in 1941.—The Finnish State Railways recorded a considerable increase in both passenger and goods traffic in 1941, as compared with 1940. Passengers carried in 1941 numbered 23,600,000, an increase of 11 per cent. over

British and Irish Railway Stocks and Shares

Stocks	Highest 1942	Lowest 1942	Prices	
			Feb. 12, 1943	Rise/ Fall
G.W.R.				
Cons. Ord.	58	39	61	+ 1
5% Con. Pref.	115½	105½	118	—
5% Red. Pref. (1950) ..	109½	103½	109	—
5% Rt. Charge	133½	123½	134½	—
5% Cons. Guar.	130½	121½	134	—
4½% Deb.	117	105	116½	—
4½% Deb.	118	108	116½	—
4½% Deb.	125	113	121½	—
5% Deb.	137	126	135	—
2½% Deb.	77	70	75	—
L.M.S.R.				
Ord.	28½	16½	29½	+ ½
4% Pref. (1923)	63½	50½	63	—
4% Pref.	76½	67½	79	+ 1
5% Red. Pref. (1955) ..	103½	94½	103½	—
4% Guar.	104½	97½	105½	—
4% Deb.	108½	101½	109	—
5% Red. Deb. (1952) ..	111	107½	109½	—
L.N.E.R.				
5% Pref. Ord.	9½	2½	10	+ ½
Def. Ord.	5	1½	4½	—
4% First Pref.	62	49½	63	+ ½
4% Second Pref.	32½	18½	32½	—
5% Red. Pref. (1955) ..	95½	79	95½	—
4% First Guar.	98	88	100	—
4% Second Guar.	90	78	91	—
3% Deb.	85	76	85½	—
4% Deb.	106½	100½	108½	—
5% Red. Deb. (1947) ..	106	103	104½	—
4½% Sinking Fund Red. Deb.	106	102½	105½	—
SOUTHERN				
Pref. Ord.	77	61½	78	—
Def. Ord.	23½	14½	24½	+ ½
5% Pref.	112½	104	117	—
5% Red. Pref. (1964) ..	110½	105½	109½	—
5% Guar. Pref.	131	121½	134	—
5% Red. Guar. Pref. (1957)	115½	109½	115½	+ 1
4% Deb.	116	104½	116	—
5% Deb.	134	125½	135	—
4% Red. Deb. (1962- 67)	110½	106	110½	—
4% Red. Deb. (1970- 80)	111	106½	110½	—
FORTH BRIDGE				
4% Deb.	109½	108	108	—
4% Guar.	105½	100	103½	—
L.P.T.B.				
4½% "A"	122½	111	123½	—
5% "A"	131½	122	131½	—
3% Guar. (1967-72) ..	95½	97½	96½	— 8
5% "B"	121	111½	121½	—
"C"	56½	38	60	—
MERSEY				
Ord.	27½	20½	28	—
3% Perp. Pref.	61½	56½	59	—
4% Perp. Deb.	102½	99½	104	—
3% Perp. Deb.	80½	76	79	—
IRELAND BELFAST & C.D.				
Ord.	9	4	9	—
G. NORTHERN				
Ord.	29½	12½	16	— 8½
G. SOUTHERN				
Ord.	25	10	22	—
Pref.	29	12½	11	— 12½
Guar.	53	35½	35	— 25
Deb.	71½	55½	59	—

§ ex-dividend

OFFICIAL NOTICES

London Midland and Scottish Railway Company

NOTICE is hereby given that the next ORDINARY GENERAL MEETING of the London Midland & Scottish Railway Company will be held at EUSTON STATION, LONDON, N.W., on Friday, the 5th March, 1943, at 11.30 a.m. precisely, for the transaction of the general business of the Company.

THOMAS ROYDEN, Chairman.
G. R. SMITH, Secretary.

Euston Station,
London, N.W.1.
18th February, 1943.

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

London and North Eastern Railway Company

NOTICE is hereby given that the TWENTIETH ORDINARY GENERAL MEETING of the Proprietors of the London and North Eastern Railway Company will be held at Grosvenor House, Park Lane, London, W.1, on Friday, the fifth day of March, 1943, at 2.0 p.m. for the purpose of the general business of the Company.

Dated this 17th day of February, 1943.

By Order,

W. H. JOHNSON,
Secretary.

Marylebone Station,
London, N.W.1.

the 1940 figure, while goods traffic, at 11,100,000 tonnes, was 14 per cent. higher than in 1940. Total receipts in 1941 aggregated Finnmark 1,750,000,000, or 18 per cent. more than in 1940. This increase is stated to be due in part to the increases in fares and rates introduced during the year under review.

Greenock Port & Harbours Provisional Order.—Two petitions against this Order have been deposited at the Scottish Office. The first is by the Chamber of Shipping of the United Kingdom. The second is by the L.M.S.R. Company, the L.N.E.R. Company, and the Caledonian Steam Packet Co. Ltd.

Posen Trams.—In its first Reichsmark balance sheet covering the financial year 1941, the Posener Strassenbahn A.G. showed tram receipts totalling RM. 8,050,000, compared with an equivalent of RM. 5,150,000 for 1940, while bus receipts were RM. 770,000 (RM. 440,000 in 1940).

The Forth Road-Bridge Scheme.—A conference of local authority representatives in Edinburgh recently decided unanimously to press forward with all possible speed engineering plans and other details of the Forth road bridge scheme with a view to submitting them to the Ministry of War Transport as soon as practicable. The conference was held on the initiative of Edinburgh, and the other local authorities represented were West Lothian, Midlothian, South Queensferry, Kirkcaldy, Fife, Inverkeithing, and Dunfermline.

The North & South Shields Tube Scheme.—The project for an electric tube railway under the River Tyne, linking North Shields and South Shields, has been revived by an offer from local commercial interests to finance the work. The tube railway would be built to the designs of Mr. E. W. Chalmers Kearney, on his well-known monorail principle, using steep gradients at each end in order to dispense with lifts and escalators, and to facilitate acceleration and retardation. The early history of this scheme was described in *The Railway Gazette* of July 25, 1941.

The "Transit Journal" Discontinued.—A very old American transport paper discontinued publication with the issue of December, 1942. This is the *Transit Journal*, a production of the McGraw-Hill Publishing Company. It was established in 1884 as the *Street Railway Journal* in the days of horse-tram operation. The name was changed to the *Electric Railway Journal* during the period of tramway electrification, and, with the development of the motorbus and the trolleybus, became the *Transit Journal*. In addition to road transport, it covered elevated and

subway rapid transit lines, which are normally excluded from the American railway press.

Highland Transport Co. Ltd.—The report to September 30, 1942, of this company, in which the L.M.S.R. holds a 50 per cent. interest, shows a gross trading profit of £31,850 (£21,694). After providing for depreciation, directors' fees, E.P.T., and income tax, and adding £921 brought forward, there is a credit balance of £2,566 (£2,515). The directors recommend a dividend of 1s. 3d. a share (same), less tax, absorbing £1,094, and that £500 again be placed to general reserve, leaving £972 to be carried forward.

New Spanish National Transport Organisation.—A new national transport organisation, called the Sindicato Nacional de Transportes y Comunicaciones, has recently been established in Spain. Membership is compulsory for railway and tram undertakings, shipping companies, and road transport companies. Railway and tram undertakings were already combined in the Asociación de Transportes y Comunicaciones de Via Ferrea (Rail Transport & Communications Association), membership of which was, however, voluntary; this association was recently absorbed in the Sindicato Nacional.

The Düsseldorf Trams.—Düsseldorf is believed to enjoy the speediest tram services in Germany, but the Düsseldorf management is nevertheless endeavouring to achieve an acceleration. One of the measures to that effect is the recent experimental introduction of a uniform 15-pfennig fare, for short or long runs alike, if no change of tram is involved. This means an increase of 5 pfennig in respect of the fares for short runs in force until recently, and it is hoped that this will reduce overcrowding, as well as expedite fare collection. On the other hand, long journey passengers are favoured. The new arrangement abolishes a wide range of multi-coloured tickets, and also the work of clipping them according to journey. Smoking is no longer permitted on the Düsseldorf trams.

William Asquith Limited.—The report and accounts for the period August 15, 1941, to August 13, 1942, show a profit, after charging all expenses of management and depreciation, of £132,934 (£115,019). Adding £30,206 brought forward gives a total of £163,140 (£144,298). Deducting £110,000 (£104,000) for taxation and contingencies and £6,623 for preference dividends, less tax, leaves an available balance of £46,517. The directors recommend payment of interest at the rate of 5 per cent. per annum, less tax, on the non-cumulative redeemable funding certificates, a dividend of 5 per cent. per annum on the ordinary shares, less tax, and a transfer of £20,000

to general reserve, leaving £23,419 to be carried forward. They consider the trading results of the year satisfactory.

Bolivian Railway Fare Increases.—The Antofagasta (Chili) & Bolivia Railway Co. Ltd. and the Bolivia Railway Company have been granted permission to increase passenger and freight rates, in accordance with a favourable recommendation from the Bolivian Government's investigating commission. Accordingly, as from October 26 last, goods rates on mineral shipments were increased from 10 per cent., and varying but substantial increases were made in passenger fares and goods rates, except for sugar, flour, and wheat.

Great Southern Railways Company.—No dividend is to be paid on the 4 per cent. guaranteed preference stock for 1942 or 1941 because of the financial position of the company. Consequently, no dividends are available on the preference and ordinary stocks. Last year arrears of dividends were paid for 1938, 1939, and 1940 on the guaranteed preference stock.

Manchester Ship Canal Company.—The directors have resolved to recommend at the ordinary general meeting to be held on February 26, the following dividends:—3½ per cent. on the Manchester Ship Canal Corporation Preference stock; 3 per cent. on the preference shares; and 1½ per cent. on the ordinary shares (the same as for the previous year).

The Public Service Transport Association.—From January 30, the offices of the Public Service Transport Association are at Brettenham House, Lancaster Place, Strand, W.C.2. The telephone number will eventually be Temple Bar 4900, but, pending the completion of a new telephone installation, the number is temporarily Temple Bar 4124. The latter is the old telephone number of Tilling & British Automobile Traction Limited (in liquidation), the offices of which have been taken over by the association. The telegraphic address is Tralitravl, Rand, London.

Polish Exhibition in London.—An exhibition of Polish economic development, and art, and of the part being played by her naval, army, and air forces, the fifth in the series "Lands of our Allies," was opened at the Berkeley Street office of Thos. Cook & Son Ltd. by Professor Stanislas Stronski, the Polish Minister of Information, on February 15. Professor Stronski, who was introduced by Mr. E. Huskisson, Director, and General Manager, of the company, pointed out that now Englishmen could not go to the Continent, Thos. Cook & Son Ltd. was bringing the Continent to them. The exhibition, which includes the showing of films on Polish subjects, will be open until February 27, from 9 a.m. to 5 p.m. (Saturdays, 9 a.m. to 12 noon).

Railway Stock Market

Stock Exchange markets generally showed firmness, although in most sections there was very little improvement in the volume of business. Activity and strength in home railway stocks provided the main feature; sentiment responded to the raising of the L.M.S.R. dividend from 2 per cent. to 2½ per cent., which was in accordance with best expectations and increased hope as to the other dividend decisions of the main-line companies. The dividend statements can be expected to draw increased attention to the generous yields which continue to be shown by home railway securities. Among preference stocks, L.M.S.R. 1923 preference and L.N.E.R. first preference would seem to be particularly attractive on yield considerations, and there is, of course, also a very good return on Southern preferred. The somewhat inactive conditions which have continued in the stock markets are due in a large measure to the fact that the rise in values in recent months has had the effect of reducing yields on all classes of securities to very moderate proportions. Exceptionally, home railway stocks still show generous yields, despite the fact that they participated in the upward movement of values in the past few months. Moreover, dividends around the 1942 rates are expected to continue during the period of the war, and possibly also until there is a final decision as to post-war

reorganisation of transport, as the existing rental agreement is to remain in force until at least one year after the termination of hostilities. So long as the rental agreement is in operation, dividends on preference and senior stocks can be classed as being virtually guaranteed by the Government. Repetition of these points seems justified, because the market does not appear to be giving sufficient attention to their importance in assessing the outlook for home railway securities. It is true that, as in other sections of the market, there is a tendency for long-term considerations as to the position that may develop in the post-war period, to play an important part in influencing sentiment. In any post-war reorganisation the railways can expect fair and equitable treatment. The claim for this to be based on the "standard revenue" of the 1921 Act is, of course, strong, and on this basis dividends on the junior stocks could be well in excess of those that can be paid under the existing rental agreement.

L.M.S.R. ordinary, now "ex" the dividend, changed hands up to 30½ on Monday, but later reacted to 29½, which, however, compared with 28½ a week ago. L.M.S.R. senior preference was 78 xd., compared with 78½; the 1923 preference at 63 xd. was at the same level as a week ago. L.M.S.R. 4 per cent. debentures were fractionally lower at 108½, and the guaranteed stock 105 xd. Southern

deferred was active before the dividend announcement, and at the time of writing has risen on balance from 24½ to 26½. Southern preferred was higher at 78½; the 5 per cent. preference remained at 117. At 62 Great Western ordinary recorded a rise of two points on balance; the guaranteed and 5 per cent. preference stocks were unchanged at 134 and 118 respectively, and the 4 per cent. debentures were slightly higher at 116½. Among L.N.E.R. issues, the second preference remained active in front of the dividend declaration, and at the time of writing, has moved up to 33½, a rise of a point on balance. There was also increased demand for L.N.E.R. first preference, which was favoured on yield considerations, and moved up to 64, as compared with 62½ a week ago. This railway's first guaranteed held its recent improvement to par, and the second guaranteed was again 91; the 4 per cent. debentures were fractionally lower at 108½. London Transport "C" remained at 60.

A slightly better tendency in Argentine railway securities was shown by fractional improvement in ordinary stocks of the leading companies, but various debenture stocks were fractionally lower on balance. B.A. Gt. Southern 4 per cent. debentures, however, gained a point to 57. Canadian Pacific regained part of the decline which followed the announcement of the conservative policy which has prevented resumption of dividends. Improvement to 69½ reflected recognition of the increased investment merits of C.P.R. 4 per cent. preference stock.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to date			Shares or Stock	Prices					
				Total this year	Inc. or Dec. compared with 1941/2		Totals		Increase or Decrease		Highest 1942	Lowest 1942	Feb. 12, 1943	Yield % (Note)		
							1942/3	1941/2								
South & Central America	Antofagasta (Chili) & Bolivia	834	7.2.43	£ 23,100	+	£ 4,020	6	£ 161,590	£ 121,530	+	£ 40,060	Ord. Sk.	14	7½	11½	Nil
	Argentine North Eastern	753	6.2.43	9,414	+	1,236	32	401,136	345,672	+	55,464	6 p.c. Deb.	19½	10	19½	Nil
	Bolivar	174	Jan., 1943	5,292	+	332	4					Ord. Sk.	20½	9	21½	Nil
	Brazil											Ord. Sk.	7½	4	5½	Nil
	Buenos Ayres & Pacific	2,807	6.2.43	110,040	+	3,540	32	3,005,640	2,620,980	+	384,660	Ord. Sk.	12½	7½	10½	Nil
	Buenos Ayres Great Southern	5,080	30.1.43	208,800	+	31,080	31	4,685,580	4,306,440	+	379,140	Ord. Sk.	12½	7½	10½	Nil
	Buenos Ayres Western	1,930	30.1.43	59,580	+	18,540	31	1,620,000	1,571,880	+	48,120	Ord. Sk.	12½	7½	10½	Nil
	Central Argentine	3,700	6.2.43	153,201	+	44,655	32	4,160,472	3,380,727	+	779,745	Ord. Sk.	9½	4½	7	Nil
	Do.											Dfd.	3½	2½	4½	Nil
	Cent. Uruguay of M. Video	972	6.2.43	37,352	+	12,039	32	788,602	743,935	+	44,667	Ord. Sk.	8	4	5½	Nil
	Costa Rica	262	Jan., 1943	16,637	+	6,836	31	96,550	159,462	+	62,900	Ord. Sk.	16½	11	13½	Nil
	Dorada	70	Jan., 1943	6,000	+	3,530	4					1 Mt. Db.	90½	87	89½	Nil
	Entre Rios	808	6.2.43	16,284	+	2,268	32	577,488	503,532	+	73,956	Ord. Sk.	33	4½	64	Nil
	Great Western of Brazil	1,030	6.2.43	17,900	+	5,300	5	92,300	70,400	+	21,900	Ord. Sh.	9	9	36½	Nil
	International of Cl. Amer.	794	Nov., 1942	\$481,524	+	\$50,446	52	\$5,534,318	\$5,097,659	+	\$456,659	Ord. Sk.	1½	5/3	2	Nil
	Interoceanic of Mexico											5 p.c. Deb.	11½	5	82½	Nil
	La Guaira & Caracas	22½	Jan., 1943	9,435	+	3,005	4	9,435	6,430	+	3,005	Ord. Sk.	6½	3½	4½	Nil
Leopoldina											Ord. Sk.	1	1	1½	Nil	
Canada	Mexican	483	7.2.43	ps. 278,500	+	ps. 48,000	5	ps. 1,557,400	ps. 1,764,530	+	ps. 207,100	Ord. Sk.	1	1	1½	Nil
	Midland Uruguay	319	Dec., 1942	15,294	+	2,038	27	621,158	618,691	+	2,464	Ord. Sk.	1	1	1½	Nil
	Nitrate	382	31.1.43	5,422	+	141	4	12,151	11,036	+	1,115	Ord. Sh.	77½	3½	73½	Nil
	Paraguay Central	274	5.2.43	\$3,532,000	+	\$480,000	32	\$122,336,000	\$109,674,000	+	\$12,662,000	Pr. Li. Sk.	51	40	50½	Nil
	Peruvian Corporation	1,059	Jan., 1943	85,767	+	5,338	28	583,434	512,971	+	70,463	Ord. Sk.	19½	5½	15½	Nil
	Salvador	100	Dec., 1942	£ 112,000	+	£ 5,000	26	£ 432,000	£ 361,172	+	£ 70,828	Ord. Sk.	59	41	59	3½
	San Paulo	153½	31.1.43	37,498	+	49	5	154,570	157,368	+	2,798	Ord. Sk.	59	41	59	3½
	Taitai	160	Jan., 1943	3,330	+	195	29	34,416	30,895	+	3,521	Ord. Sh.	41½	23½	35½	Nil
	United of Havana	1,346	6.2.43	55,125	+	21,669	31	1,454,852	638,719	+	816,133	Ord. Sk.	8½	2½	6½	Nil
	Uruguay Northern	73	Dec., 1942	1,595	+	311	27	59,817	60,757	+	940					Nil
	India	Canadian Pacific	17,039	7.2.43	915,800	+	14,400	5	4,701,400	4,633,400	+	68,000	Ord. Sk.	16½	9½	14½
Barsi Light		202	Jan., 1943	22,440	+	10,612	42	172,958	135,863	+	37,095					Nil
Bengal & North Western		2,090	Nov., 1942	264,975	+	33,087	8	449,400	561,082	+	111,682	Ord. Sk.	102½	88	102½	3½
Bengal-Nagpur		3,267	30.9.42	275,550	+	17,775	26	5,085,678	4,788,758	+	296,920	Ord. Sk.	105½	87	109½	5½
Madras & Southern Mahratta		2,939	10.12.42	219,525	+	8,058	24	5,914,276	4,996,457	+	917,819					Nil
Various	Rohilkund & Kumaon	571	Nov., 1942	555,750	+	5,072	8	115,950	99,909	+	16,041					Nil
	South Indian	2,402	30.9.42	185,811	+	31,733	26	3,293,328	2,670,410	+	622,918					Nil
	Egyptian Delta	607	20.10.42	13,364	+	1,277	31	224,460	157,047	+	67,413	Pr. Sh.	5½	1½	4	Nil
	Manila	277	Dec., 1942	30,416	+	11,471	24	190,328	122,537	+	67,791	B. Deb.	44	35	42	8½
Various	Midland of W. Australia	1,900	31.10.42	60,590	+	13,668	31	1,833,420	1,542,694	+	290,726	Inc. Deb.	95	90	93½	6
	Nigerian	13,291	5.12.42	796,375	+	33,879	37	28,131,557	27,134,897	+	996,660					Nil
	South Africa	4,774	Oct., 1942	1,445,531	+	309,932										Nil

Note. Yields are based on the approximate current prices and are within a fraction of ½
† Receipts are calculated @ 1s. 6d. to the rupee

Argentine traffic is given in sterling calculated @ 16½ pesos to the £
‡ ex dividend